SONY®

TRINITRON® COLOR VIDEO MONITOR

# BVM-D20F1A

CHASSIS NO. SCC-P31D-A

# BVM-D20F1E

CHASSIS NO. SCC-G10E-A

# BVM-D20F1U

CHASSIS NO. SCC-G09B-A

# BVM-D24E1WA

CHASSIS NO. SCC-P31E-A

# BVM-D24E1WE

CHASSIS NO. SCC-G10F-A

# BVM-D24E1WU

CHASSIS NO. SCC-G09C-A

HR Trinitron

*Multiformat*

MAINTENANCE MANUAL
1st Edition
Serial No. 2000001 and Higher (ALL MODELS)

## ⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

## ⚠WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

## ⚠ AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

### WARNING!!

**AN INSULATED TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.**

### SAFETY-RELATED COMPONENT WARNING !!

**COMPONENTS IDENTIFIED BY A ⚠ MARK ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.**

### ATTENTION!!

**AFIN D’ÉVITER TOUT RISQUE D’ÉLECTROCUTION PROVENANT D’UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D’ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ Á L’ALIMENTATION SECTEUR.**

### ATTENTION AUX COMPOSANTS RELATIFS Á LA SÉCURITÉ!!

**LES COMPOSANTS IDENTIFIÉS PAR UNE MAPQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D’UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L’IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU’UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.**

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SONY

TRINITRON® COLOR VIDEO MONITOR

# BVM-D20F1U/D20F1E/D20F1A
# BVM-D24E1WU/D24E1WE/D24E1WA

## Section 1
## Operating Instructions

HR Trinitron

**Multiformat**

OPERATION MANUAL English
1st Edition
Serial No. 2000001 and Higher

This section is extracted from operation manual.

## WARNING

**To prevent fire or shock hazard, do not expose the unit to rain or moisture.**

**To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.**

## AVERTISSEMENT

Afin d'éviter tout risque d'incendie ou d'électrocution, ne pas exposer cet appareil à la pluie ou à l'humidité.

Afin d'écarter tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

## WARNUNG

Um Feuergefahr und die Gefahr eines elektrischen SchIages zu vermeiden, darf das Gerät weder Regen noch Feuchtigkeit ausgesetzt werden.

Um einen elektrischen Schlag zu vermeiden, darf das Gehäuse nicht geöffnet werden. Überlassen Sie Wartungsarbeiten stets nur einem Fachmann.

## ADVERTENCIA

Para evitar incendios o el riesgo de electrocución, no exponga la unidad a la lluvia ni a la humedad.

Para evitar descargas eléctricas, no abra la unidad. En caso de avería, solicite los servicios de personal cualificado.

## ATTENZIONE

Per evitare incendi o cortocircuiti, l'apparecchio non deve essere esposto alla pioggia o all'umidità.

Per evitare scosse elettriche, non aprite l'apparecchio. Per le riparazioni rivolgetevi solo a personale qualificato.

**CAUTION:**
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

**ATTENTION**
Il y a un risque d'explosion si la pile est mal insérée.
Remplacer la pile uniquement par une pile de même type ou de type équivalent recommandé par le fabricant. Jeter les piles usées conformément aux instructions du fabricant.

**VORSICHT:**
Es besteht Explosionsgefahr, wenn die Batterie inkorrekt eingelegt wird.
Es darf nur eine identische oder eine vom Hersteller empfohlene Batterie des gleichen Typs eingesetzt werden.
Entladene Batterien sind nach den Anweisungen des Herstellers zu entsorgen.

**PRECAUCION**
Peligro de explosión en caso de haberse instalado incorrectamente la betería.
Cambie sólo por una del mismo tipo o especificaciones equivalentes, de entre las recomendadas por el fabricante.
Las baterías viejas se deben eliminar siguiendo las instrucciones del fabricante.

**ATTENZIONE:**
Pericolo di esplosione se la pila viene sostituita scorrettamente.
Sostituirla solo con un'altra uguale o di un tipo equivalente consigliato dal fabbricante. Gettare via le pile usate secondo le istruzioni del fabbricante.

**Note**
The socket-outlet should be installed near the equipment and be easily accessible.

**Remarque**
La prise doit être près de l'appareil et facile d'accès.

**Hinweis**
Zur Trennung vom Netz ist der Netzstecker aus der Steckdose zu ziehen, welche sich in der Nähe des Gerätes befinden muß und leicht zugänglich sein soll.

**Nota**
La toma mural debe estar instalada cerca del equipo y debe accederse a ésta con facilidad.

**Nota**
La presa di corrente deve essere situata vicino all'apparecchio e deve essere facilmente accessibile.

Apparaten ma kun tilkoples jordet stikkontakt

Apparaten må kun tilkoples jordet stikkontakt

WARNING: THIS WARNING IS APPLICABLE FOR USA ONLY.

If used in USA, use the UL LISTED power cord specified below.
DO NOT USE ANY OTHER POWER CORD.

| | |
|---|---|
| Plug Cap | Parallel blade with ground pin<br>(NEMA 5-15P Configuration) |
| Cord | Type SVT, three 16 or 18 AWG wires |
| Length | Less than 2.5 m (8 ft 3 in) |
| Rating | Minimum 10 A, 125 V |

Using this unit at a voltage other than 120V may require the use of a different line cord or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel.

**For the customers in USA (BVM-D20F1U, BVM-D24E1WU)**
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

**For the customers in Canada (BVM-D20F1U, BVM-D24E1WU)**
This Class A digital apparatus complies with Canadian ICES-003.

**Pour les utilisateurs au Canada (BVM-D20F1U, BVM-D24E1WU)**
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

The socket-outlet should be installed near the equipment and be easily accessible.

**For the customers in Europe (BVM-D20F1E/D20F1A, BVM-D24E1WE/D24E1WA)**
This product with the CE marking complies with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.
Compliance with these directives implies conformity to the following European standards:
- EN60950: Product Safety
- EN55103-1: Electromagnetic Interference (Emission)
- EN55103-2: Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment(s):
E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors) and E4 (controlled EMC environment, ex. TV studio).

**Pour les clients européens (BVM-D20F1E/D20F1A, BVM-D24E1WE/D24E1WA)**
Ce produit portant la marque CE est conforme à la fois à la Directive sur la compatibilité électromagnétique (EMC) (89/336/CEE) et à la Directive sur les basses tensions (73/23/CEE) émises par la Commission de la Communauté européenne.
La conformité à ces directives implique la conformité aux normes européennes suivantes:
- EN60950: Sécurité des produits
- EN55103-1: Interférences électromagnétiques (émission)
- EN55103-2: Sensibilité électromagnétique (immunité)

Ce produit est prévu pour être utilisé dans les environnements électromagnétiques suivants:
E1 (résidentiel), E2 (commercial et industrie légère), E3 (urbain extérieur) et E4 (environnement EMC contrôlé ex. studio de télévision).

**Für Kunden in Europa (BVM-D20F1E/D20F1A, BVM-D24E1WE/D24E1WA)**
Dieses Produkt besitzt die CE-Kennzeichnung und erfüllt sowohl die EMV-Direktive (89/336/EEC) als auch die Direktive Niederspannung (73/23/EEC) der EG-Kommission.
Die Erfüllung dieser Direktiven bedeutet Konformität für die folgenden Europäischen Normen:
- EN60950: Produktsicherheit
- EN55103-1: Elektromagnetische Interferenz (Emission)
- EN55103-2: Elektromagnetische Empfindlichkeit (Immunität)

Dieses Produkt ist für den Einsatz unter folgenden elektromagnetischen Bedingungen ausgelegt:
E1 (Wohnbereich), E2 (kommerzieller und in beschränktem Maße industrieller Bereich), E3 (Stadtbereich im Freien) und E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio)

**Voor de klanten in Nederland**

Bij dit produkt zijn batterijen geleverd. Wanneer deze leeg zijn, moet u ze niet weggooien maar inleveren als KCA.

- Dit apparaat bevat een Li-ion batterij voor memory back-up.
- De batterij voor memory back-up is vastgesoldeerd op de BC printplaat BAT1.
- Raadpleeg uw leverancier over de verwijdering van de batterij op het moment dat u het apparaat bij einde levensduur afdankt.
- Gooi de batterij niet weg, maar lever hem in als KCA.

**Note**
Be sure to use the supplied power cord for this monitor, or this monitor may not conform with the FCC Rules or EEC Directive 89/336/EEC.

**Remarque**
Utiliser le cordon d'alimentation fourni pour ce moniteur, sinon il pourrait ne pas être conforme aux règles FCC ou à la directive CEE 89/336/EEC.

**Hinweis**
Dieser Monitor darf ausschließlich mit dem mitgelieferten Netzkabel betrieben werden, weil anderenfalls der Monitor nicht mehr die FCC-Vorschriften oder die EG-Richtlinie 89/336/EWG erfüllt.

**Nota**
Utilice sin falta el cable eléctrico que viene con este monitor; de lo contrario el monitor puede no cumplir con los reglamentos de la FCC o de la directiva 89/336/EEC de la Comunidad Europea.

**Nota**
Assicurarsi di usare il cavo di alimentazione in dotazione per questo monitor, altrimenti il monitor può non essere conforme alle norme FCC o alla Direttiva CEE/89/336.

**For the customers in United Kingdom (BVM-D20F1E/D20F1A, BVM-D24E1WE/D24E1WA)**

**WARNING**
**THIS APPARATUS MUST BE EARTHED**

**IMPORTANT**
The wires in this mains lead are coloured in accordance with the following code:

| | |
|---|---|
| Green-and-yellow: | Earth |
| Blue: | Neutral |
| Brown: | Live |

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Ensure that your equipment is connected correctly - if you are in any doubt consult a qualified electrician.

**ATTENTION - When the product is installed in a rack:**

**a) Elevated operating ambient temperature**
If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacture's maximum rated ambient temperature (Tmra: 0°C to 35°C (32°F to 95°F)).

**b) Reduced air flow**
Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

**c) Mechanical loading**
Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

**d) Circuit overloading**
Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring.
Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

**e) Reliable earthing**
Reliable earthing of rack-mounted equipment should e maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

**f) Gap keeping**
Upper and lower gap of rack-mounted equipment should be kept 44 mm (1¾ inches).

**Achtung - bei Installation des Geräts in einem Gestell:**

**a) Erhöhte Umgebungstemperatur bei Betrieb**
Wird das Gerät in einem geschlossenen Gestell oder einem Gestell mit mehreren anderen Geräten installiert, kann die Umgebungstemperatur um das Gestell höher sein als die normale Umgebungstemperatur im Raum. Achten Sie daher bitte besonders darauf, das Gerät in einer Umgebung zu installieren, in der die Temperatur nicht über die vom Hersteller angegebene Umgebungstemperatur von 0 bis
35 °C (32 °F bis 95 °F) ansteigt (Tmra).

**b) Reduzierte Belüftung**
Das Gerät muß so im Gestell installiert werden, daß eine Belüftung gewährleistet ist, die für den sicheren Betrieb des Geräts erforderlich ist.

**c) Mechanische Belastung**
Das Gerät muß so im Gestell installiert werden, daß nicht durch eine ungleichmäßige mechanische Belastung Unfallgefahr entsteht.

**d) Überlastung der Stromkreise**
Der Anschluß des Geräts an das Versorgungsnetz erfordert sorgfältige Planung. Bitte beachten Sie insbesondere die Auswirkungen, die eine Überlastung der Stromkreise im Hinblick auf den Überspannungsschutz und die physischen Komponenten des Versorgungsnetzes haben kann.
Beachten Sie in diesem Zusammenhang unbedingt die Angaben auf dem Typenschild am Gerät.

**e) Zuverlässige Erdung**
Geräte, die in einem Gestell installiert werden, benötigen eine zuverlässige Erdung. Achten Sie insbesondere auf Anschlüsse an das Versorgungsnetz, die nicht direkt an einen Abzweigstromkreis, sondern indirekt, zum Beispiel über Verlängerungskabel, erfolgen.

**f) Erforderliche Abstände**
Halten Sie zur Ober- und Unterseite eines in einem Gestell installierten Geräts einen Abstand von 44 mm (1 3/4 inches) ein.

**ATTENTION - When the product is installed in a rack:**

a) **Elevated operating ambient temperature**
If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacture's maximum rated ambient temperature (Tmra: 0°C to 35°C (32°F to 95°F)).

b) **Reduced air flow**
Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

c) **Mechanical loading**
Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

d) **Circuit overloading**
Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring.
Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

e) **Reliable earthing**
Reliable earthing of rack-mounted equipment should e maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

f) **Gap keeping**
Upper and lower gap of rack-mounted equipment should be kept 44 mm (1 ¾ inches).

**Achtung - bei Installation des Geräts in einem Gestell:**

a) **Erhöhte Umgebungstemperatur bei Betrieb**
Wird das Gerät in einem geschlossenen Gestell oder einem Gestell mit mehreren anderen Geräten installiert, kann die Umgebungstemperatur um das Gestell höher sein als die normale Umgebungstemperatur im Raum. Achten Sie daher bitte besonders darauf, das Gerät in einer Umgebung zu installieren, in der die Temperatur nicht über die vom Hersteller angegebene Umgebungstemperatur von 0 bis
35 °C (32 °F bis 95 °F) ansteigt (Tmra).

b) **Reduzierte Belüftung**
Das Gerät muß so im Gestell installiert werden, daß eine Belüftung gewährleistet ist, die für den sicheren Betrieb des Geräts erforderlich ist.

c) **Mechanische Belastung**
Das Gerät muß so im Gestell installiert werden, daß nicht durch eine ungleichmäßige mechanische Belastung Unfallgefahr entsteht.

d) **Überlastung der Stromkreise**
Der Anschluß des Geräts an das Versorgungsnetz erfordert sorgfältige Planung. Bitte beachten Sie insbesondere die Auswirkungen, die eine Überlastung der Stromkreise im Hinblick auf den Überspannungsschutz und die physischen Komponenten des Versorgungsnetzes haben kann.
Beachten Sie in diesem Zusammenhang unbedingt die Angaben auf dem Typenschild am Gerät.

e) **Zuverlässige Erdung**
Geräte, die in einem Gestell installiert werden, benötigen eine zuverlässige Erdung. Achten Sie insbesondere auf Anschlüsse an das Versorgungsnetz, die nicht direkt an einen Abzweigstromkreis, sondern indirekt, zum Beispiel über Verlängerungskabel, erfolgen.

f) **Erforderliche Abstände**
Halten Sie zur Ober- und Unterseite eines in einem Gestell installierten Geräts einen Abstand von 44 mm (1 ³/₄ inches) ein.

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# Precautions

### On safety

- Operate the unit only with a power source as specified in “Specifications” section.
- The nameplate indicating operating voltage, power consumption, etc., is located at the rear.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not drop or place heavy objects on the power cord. If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

### On installation

- Allow adequate air circulation to prevent internal heat build-up.
  Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

### On cleaning

To keep the unit looking brand-new, periodically clean it with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since they will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.

### On repacking

Do not throw away the carton and packing materials. They make an ideal container which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

If you have any questions about this unit, contact your authorized Sony dealer.

### On rack mounting

When the monitor is mounted on a rack, the temperature around the monitor may rise due to heat generated from other equipment and reduced air circulation, causing damage to the monitor. To prevent this, keep ventilation holes, install a ventilation fan or take other effective countermeasures so that the temperature around the monitor is within the specified range: operating temperature of 0 to 35 °C (32 to 95°F), optimum temperature of 20 to 30°C (68 to 86°F).

### On magnetism

- Do not place the unit near any objects or pieces of equipment which generate magnetism, such as magnets, speakers, electric clocks, toys using magnets, health appliances, etc. Magnetism will cause picture bounce, oscillations or picture discoloration.
- Also, the picture may become fuzzy or the colors may not reproduce correctly due to earth magnetism. This depends on direction that the unit is installed. This is not equipment failure. In such a case, simply degauss the unit.

### On the CRT

- Dust accumulates on the CRT easily. Clean the CRT when necessary with a soft cloth.
  The surface of the CRT is easily scratched; therefore, do not rub or touch the surface of the CRT unnecessarily since this may result in a scratched picture tube.
- If you touch the surface of the CRT, you may feel a weak electrical shock. This is simply static electricity that is generated on the surface of the CRT. It will not affect the human body.

### On displaying the 4:3 signal (BVM-D20F1U/D20F1E/D20F1A only)

The 16:9 mask has been attached to the BVM-D20F1U/D20F1E/D20F1A at the factory. If the 16:9 button is pressed to change to the 4:3 aspect mode in this condition, the upper and lower portions of the image is hidden by the mask. To display the 4:3 image, replace the 16:9 mask with the supplied 4:3 mask.

*For details, see “Installation of the 4:3 Mask” on page 21.*

# Overview

The BVM-D20F1U/D20F1E/D20F1A are 20-inch1) Trinitron®2) Color Video Monitors. The BVM-D24E1WU/D24E1WE/D24E1WA are 24-inch1) Trinitron®2) Color Video Monitors. They are suitable for television stations or video production houses, where precise image reproduction is required.

## Features

### Multiformat

The monitor supports the principal formats (480I/480P/720P/1080I) for the digital broadcasts, NTSC and PAL color systems, and a wide variety of signals3) whose horizontal frequency is between 15 kHz and 45 kHz.

### High resolution picture tube

The HR Trinitron picture tube produces a clear, high resolution image.

| Model | Aperture grille pitch | Resolution at the center of the picture |
|---|---|---|
| BVM-D20F1U/<br>D20F1E/D20F1A | 0.3 mm | 900 TV lines (4:3)<br>700 TV lines (16:9) |
| BVM-D24E1WU/<br>D24E1WE/<br>D24E1WA | 0.25-0.28 mm | 1000 TV lines<br>(4:3, 16:9) |

### Separate control unit

Using a separate control unit reduces the space needed for the equipment.

The monitor is controlled by a separate control unit, such as an optional BKM-10R/11R Monitor Control Unit or by daisy chain connections. The BVM-D20F1U/D20F1E/D20F1A can be connected to the BKM-10R via an optional BKM-32H Monitor Control Unit Attachment Kit; the BVM-D24E1WU/D24E1WE/D24E1WA via a BKM-34H.

### Controlling monitor groups

Up to 32 monitors can be controlled from one control unit by the RS-485 serial remote connections. You can control individual monitors or monitor groups simply by entering monitor address or group numbers. You can also execute the same operation on all connected monitors, or put all connected monitors into the same setup and adjustment state.

### Setup and adjustment with the Monitor Memory Card

You can use an optional BKM-12Y Monitor Memory Card to save and load monitor setup and adjustment data via the BKM-10R/11R Monitor Control Unit. If your system includes more than one monitor, you can use the monitor memory cards to exchange data between monitors. This makes it easy to put all monitors in your system into the same setup and adjustment state.

### Auto chroma/phase and white balance functions

The chroma and phase of the decoder are automatically adjusted with the auto chroma and phase function and the color temperature is automatically adjusted with the auto white balance function by using the BKM-14L Auto Setup Probe, etc.

### Safe area display

The safe area display function equipped as standard displays the important image area.

### Expandable input capability

The monitor is equipped with one channel of $YP_BP_R$/GBR input connectors at the factory.

The input connector configuration can be easily modified by simply inserting the optional decoder adaptor or the input expansion adaptor into the input option slot at the rear of the monitor. Up to four adaptors can be installed.

### Stable color temperature

The internal beam current feedback circuit maintains a constant color temperature over long periods of time.

### Blue-only mode convenient for monitoring noise

All three CRT cathodes can be driven with a blue signal, producing a monochrome display. This mode is convenient for chroma and phase adjustment, and for monitoring VTR noise.

### Matrix selection

The ITU-601, ITU-709 and SMPTE-240M matrix modes can be selected for individual input signals.

---

1) 20-inch and 24-inch refer to the CRT size of the monitor. For effective picture size, see “Specifications” on page 61.

2) Trinitron® is a registered trademark of Sony Corporation.

3) For details on the signal format, see “Available Signal Formats” on page 63.

### Beam landing correction circuit (BVM-D24E1WU/D24E1WE/D24E1WA only)

The beam landing shift caused by the change in CRT luminance and temperature, and that caused by the earth’s magnetism can be adjusted manually, or automatically using the optional BKM-14L auto setup probe.

### Digital uniformity circuit (BVM-D24E1WU/D24E1WE/D24E1WA only)

Uniform white can be reproduced on every point of the screen, even in the peripheral area, thanks to the built-in digital uniformity circuit. The uniformity can be adjusted to match the installation conditions of the monitor. Automatic adjustment is also possible using the optional BKM-14L auto setup probe.

### Other features

- The monitor’s various functions and operating conditions can be set with on-screen menus.
- Compatible with the ISR (Interactive Status Reporting) system.
- Has both RS-485 serial remote and relay contact parallel remote control connectors.
- Built-in test signal generator for crosshatch, 100% white signal, 20% gray signal, gray scale, and PLUGE (Picture Line Up Generating Equipment).
- Built-in Caption Vision decoder.
- Pulse cross function for simultaneous checking of the horizontal and vertical synchronization signals.
- Auto and manual degaussing.
- Built-in CRT protection circuit.
- The monitor may be mounted in an EIA-standard 19-inch rack, using an optional BKM-30E20 Rack Mount Kit (BVM-D20F1U/D20F1E/D20F1A only).
- The appearance of the monitor can be changed to 16:9 or 4:3 display by the replacement of a mask (BVM-D20F1U/D20F1E/D20F1A only).

## Options

### For external control

**BKM-10R Monitor Control Unit**
**BKM-11R Monitor Control Unit**

A controller, allowing you to control multiple monitors from one control unit.

**BKM-12Y Monitor Memory Card**

Memory cards which can be read and written by the BKM-10R/11R.

**BKM-14L Auto Setup Probe**

A probe, allowing the automatic adjustment of this monitor’s color temperature.
For the BVM-D24E1WU/D24E1WE/D24E1WA, the probe is also used for white uniformity adjustment.

### For installation

**BKM-30E20 Rack Mount Kit**

Rack mount kit for mounting the BVM-D20F1U/D20F1E/D20F1A in an EIA standard 19-inch rack.

**BKM-32H Monitor Control Unit Attachment Kit**

Assembly kit for attaching a BKM-10R Monitor Control Unit to the BVM-D20F1U/D20F1E/D20F1A.

**BKM-34H Monitor Control Unit Attachment Kit**

Assembly kit for attaching a BKM-10R Monitor Control Unit to the BVM-D24E1WU/D24E1WE/D24E1WA.

### Decoder and input expansion adaptors

The input connector panel is configured by sliding the optional decoder adaptor or input expansion adaptor into the input option slot at the rear of the monitor. Up to four adaptors can be installed to the monitor.
The input signal type for each connector of the adaptor is set with the INPUT CONFIGURATION menu, in accordance with the configuration of the connector panel.

**Note**

When installing the adaptor, be sure to perform the necessary input signal setup with the INPUT CONFIGURATION menu. If the setup is not performed, the adaptors may not function correctly.

*For information about the INPUT CONFIGURATION menu, see "C1 Setting the Input Configuration (SET UP 1) — INPUT CONFIGURATION Menu" on page 35.*

**BKM-20D SDI 4:2:2 Decoder Adaptor**
Includes decoders for serial digital component signals (525/625). Input/output connectors for three serial digital channels (component inputs only) and three analog channels.

**BKM-21D SDI Multi Decoder Adaptor**
Includes decoders for serial digital signals (525/625 component and NTSC/PAL composite) and analog composite signals (NTSC and PAL). Input/output connectors for three serial digital channels and three analog channels are equipped.

**BKM-22X SDI Input Expansion Adaptor**
Increases the number of input/output channels. Includes input/output connectors for three serial digital channels and three analog channels.

**BKM-24N NTSC Decoder Adaptor**
Includes decoders for analog composite NTSC signals and input/output connectors for six analog channels.

**BKM-25P PAL Decoder Adaptor**
Includes decoders for analog composite PAL signals and input/output connectors for six analog channels.

**BKM-26M PAL-M Decoder Adaptor**
Includes decoders for analog composite PAL-M signals and input/output connectors for six analog channels.

**BKM-27T Tri-Standard Decoder Adaptor**
Includes decoders for analog composite NTSC, PAL, and SECAM signals and input/output connectors for six analog channels.

**BKM-28X Analog Input Expansion Adaptor**
Increases the number of input/output channels. Includes input/output connectors for six analog channels.

**BKM-41HD HD SDI Input Adaptor (one HD SDI channel)**
Includes a decoder for HD serial digital signals and input/output connectors for a serial digital signal channel and an analog signal channel.

**BKM-42HD HD SDI Input Adaptor (two HD SDI channels)**
Includes a decoder for HD serial digital signals and input/output connectors for two serial digital signal channels and an analog signal channel.

**Notes**

- The BKM-41HD and BKM-42HD use two input option slots.
- The signal from the MONITOR OUT connector of the BKM-41HD/42HD does not satisfy the ON-LINE signal specifications.

**BKM-48X HD Analog Input Expansion Adaptor**
Increases the number of input/output channels. Includes input/output connectors for six analog channels. For each input/output connector, either floating or ground can be selected by using the switch inside the board.

## Connector Panel Configuration

The unit comes standard with connectors for one channel of $Y/P_B/P_R$ or GBR. By adding the optional decoder adaptor or input expansion adaptors, the input/output connector panel can be assembled in a wide variety of configurations. The signals that each of the adaptors' connectors supports are given in the table below. The type of signal to be applied to each input/output connector is set with the INPUT CONFIGURATION menu.

**Notes**

- One BKM-22X can be attached simultaneously with the BKM-20D or BKM-21D.
- The BKM-20D, BKM-21D and BKM-22X can not provide proper active-through outputs if a signal whose format is not selected in the INPUT CONFIGURATION menu is input. (If AUTO is selected, input a signal which has the same format with the signal monitored last.)

*For information about the INPUT CONFIGURATION menu, see "C1 Setting the Input Configuration (SET UP 1) — INPUT CONFIGURATION Menu" on page 35.*

### Priority of the decoder adaptors

When multiple decoder adaptors for NTSC or PAL format are installed, their priority is as in the following table.
**Example:** To monitor the composite NTSC signal when the BKM-24N and BKM-27T are installed, the input composite NTSC signal is always decoded by the BKM-24N.

| Input signal and its format | | Decoder adaptor | | | |
|---|---|---|---|---|---|
| | | BKM-24N | BKM-25P | BKM-27T | BKM-21D |
| Composite signal | NTSC | 1 | | 3 | 2 |
| | PAL | | 1 | 3 | 2 |
| YC signal | NTSC | 1 | | 2 | |
| | PAL | | 1 | 2 | |

| Signal format \ Adaptor name | | BKM-41HD HD SDI Input Adaptor | BKM-42HD HD SDI Input Adaptor | BKM-48X[1] HD Analog Expansion Adaptor |
|---|---|---|---|---|
| Serial digital input | Component 525/625 | | | |
| | Composite NTSC | | | |
| | Composite PAL | | | |
| | HD SDI | ◎ | ◎ | |
| Analog input | Composite NTSC | | | ○ |
| | Composite PAL | | | ○ |
| | Composite PAL-M | | | ○ |
| | Composite SECAM | | | ○ |
| | $YP_BP_R$ 525/625 | ◎ | ◎ | ◎ |
| | GBR 525/625 | ◎ | ◎ | ◎ |
| | Y/C NTSC | | | ○ |
| | Y/C PAL | | | ○ |
| | Y/C PAL-M | | | ○ |
| | $YP_BP_R$/GBR 1080/48I | ◎ | ◎ | ◎ |
| | $YP_BP_R$/GBR 1080/50I | ◎ | ◎ | ◎ |
| | $YP_BP_R$/GBR 575/50P | ◎ | ◎ | ◎ |
| | $YP_BP_R$/GBR 480/60P | ◎ | ◎ | ◎ |
| | $YP_BP_R$/GBR 1035/60I | ◎ | ◎ | ◎ |
| | $YP_BP_R$/GBR 1080/60I | ◎ | ◎ | ◎ |
| | $YP_BP_R$/GBR 720/60P | ◎ | ◎ | ◎ |
| Number of digital inputs | | 1 | 2 | – |
| Number of analog input | | 1 | 1 | 6 |

◎ Signal can be reproduced with this adaptor.
○ Signal can be reproduced when using this adaptor together with an adaptor marked with ◎.

1) Equipped with floating/non-floating ground mode selected for hum reduction.

*(continued)*

| Adaptor name<br>Signal format | | BKM-20D SDI 4:2:2 Decoder Adaptor | BKM-21D SDI Multi Decoder Adaptor | BKM-22X SDI Input Expansion Adaptor | BKM-24N NTSC Decoder Adaptor | BKM-25P PAL Decoder Adaptor | BKM-26M PAL-M Decoder Adaptor | BKM-27T Tri-Standard Decoder Adaptor | BKM-28X Analog Input Expansion Adaptor |
|---|---|---|---|---|---|---|---|---|---|
| **Serial digital input** | Component 525/625 | ◎ | ◎ | ○ | | | | | |
| | Composite NTSC | ○ | ◎ | ○ | | | | | |
| | Composite PAL | ○ | ◎ | ○ | | | | | |
| | HD SDI | | | | | | | | |
| **Analog input** | Composite NTSC | ○ | ◎ | ○ | ◎ | ○ | ○ | ◎ | ○ |
| | Composite PAL | ○ | ◎ | ○ | ○ | ◎ | ○ | ◎ | ○ |
| | Composite PAL-M | ○ | ○ | ○ | ○ | ○ | ◎ | ○ | ○ |
| | Composite SECAM | ○ | ○ | ○ | ○ | ○ | ○ | ◎ | ○ |
| | $YP_BP_R$ 525/625 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| | GBR 525/625 | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| | Y/C NTSC | | | | ◎ | ○ | ○ | ◎ | ○ |
| | Y/C PAL | | | | ○ | ◎ | ○ | ◎ | ○ |
| | Y/C PAL-M | | | | ○ | ○ | ◎ | ○ | ○ |
| | $YP_BP_R$/GBR 1080/48I | | | | | | | | |
| | $YP_BP_R$/GBR 1080/50I | | | | | | | | |
| | $YP_BP_R$/GBR 575/50P | | | | | | | | |
| | $YP_BP_R$/GBR 480/60P | | | | | | | | |
| | $YP_BP_R$/GBR 1035/60I | | | | | | | | |
| | $YP_BP_R$/GBR 1080/60I | | | | | | | | |
| | $YP_BP_R$/GBR 720/60P | | | | | | | | |
| **Number of digital inputs** | | 3 | 3 | 3 | – | – | – | – | – |
| **Number of analog input** | | 3 | 3 | 3 | 6 | 6 | 6 | 6 | 6 |

◎ Signal can be reproduced with this adaptor.
○ Signal can be reproduced when using this adaptor together with an adaptor marked with ◎.

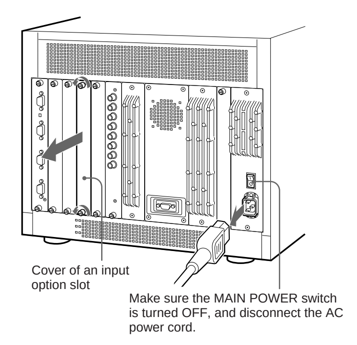
## Installing a Decoder Adaptor

Each decoder adaptor can be installed in any input option slot.

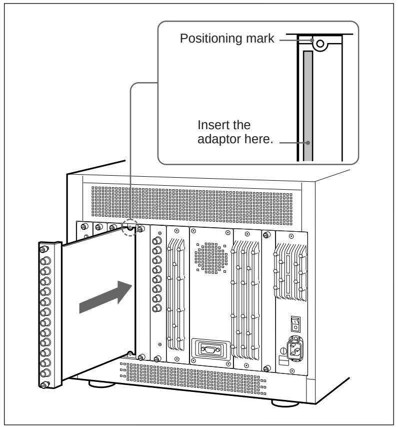
**Note**

Turn off the main power of the monitor and disconnect the AC power cord before installing or removing adaptors.

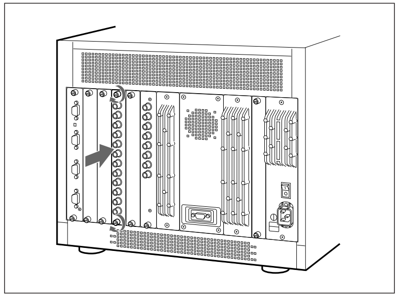
**1** Remove the cover of an input option slot on the rear panel of the monitor.


Cover of an input option slot
Make sure the MAIN POWER switch is turned OFF, and disconnect the AC power cord.

**2** Insert the adaptor under the positioning mark on the top of the slot (on the left of the screw hole).



**3** Push the adaptor in until it is firmly seated in the connector inside the monitor, then tighten the two screws to secure the adaptor.



**Note**

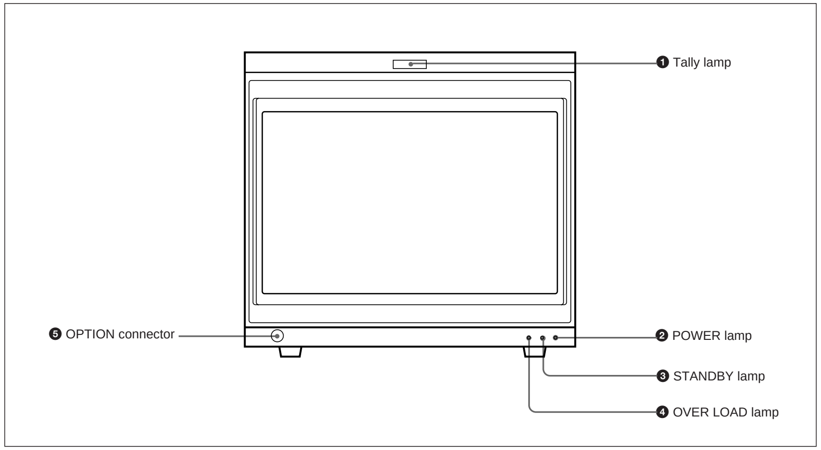
Install the BKM-20D/21D SDI Decoder Adaptor after all other installations have been completed. If you insert another decoder adaptor or an analog input output connectors board or put a cover plate in the input option slot to the right of the BKM-20D/21D previously installed, the springs on the side of the BKM-20D/21D may be damaged or detached. To avoid this, remove the BKM-20D/21D temporarily while carrying out the other installations, then reinstall it last of all.

http://getMANUAL.com

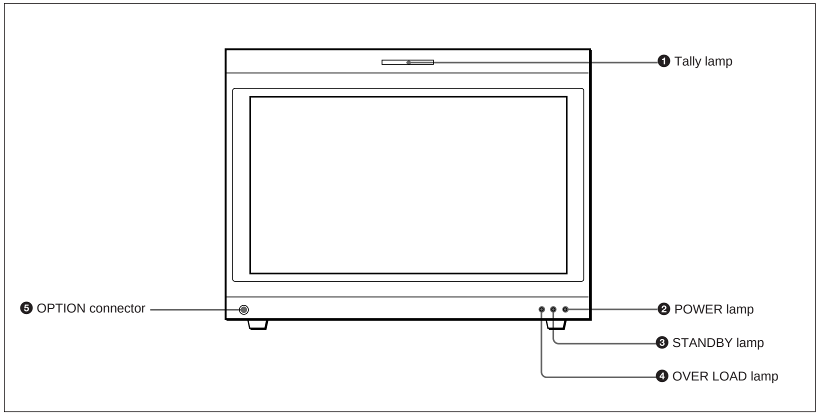
# Location and Function of Parts

## Front Panel

### BVM-D20F1U/D20F1E/D20F1A



### BVM-D24E1WU/D24E1WE/D24E1WA



**❶ Tally lamp**
With factory settings, the tally lamp lights when pins No. 8 and No. 9 of the REMOTE 2 connector on the rear panel are shorted. By changing the setting in the REMOTE menu, different pins on the remote connector can be used to control the tally lamp.

*For information about the REMOTE menu, see "C2 Assigning the Remote Control Functions (SET UP 2) — REMOTE Menu" on page 40.*

**❷ POWER lamp**
Lights when the monitor is put into operation mode from standby mode (see STANDBY lamp ❸) by pressing the POWER switch of the BKM-10R/11R.

**Note**

When the STANDBY lamp ❸ is blinking, the monitor cannot be put into operation mode (internal data initialization is taking place). Wait until the STANDBY lamp ❸ is steadily lit.

**❸ STANDBY lamp**
Lights when the monitor is in standby mode. The monitor will be in standby mode under the following conditions:

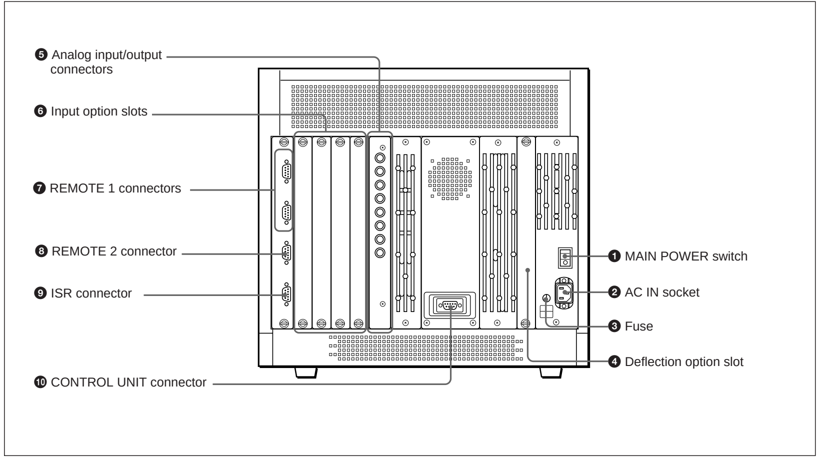
- The MAIN POWER switch (on the rear panel) is turned on (the STANDBY lamp will blink for a few moments after the switch is turned on, then will light).
- The monitor is changed from operation mode to standby mode by external control.

**❹ OVER LOAD lamp**
Lights to warn of CRT overload.
When the OVER LOAD lamp is lit, use the unit with the contrast or brightness reduced.

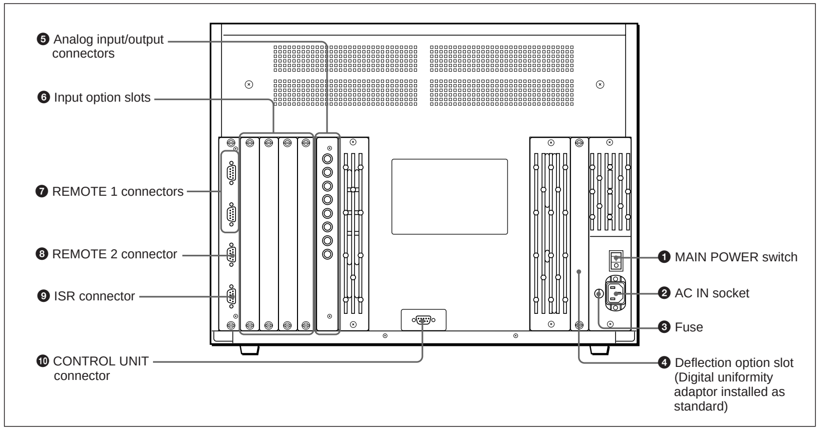
**❺ OPTION connector**
Used to connect the BKM-11R Monitor Control Unit or a auto setup probe (BKM-14L, etc).

## Rear Panel

### BVM-D20F1U/D20F1E/D20F1A


❺ Analog input/output connectors
❻ Input option slots
❼ REMOTE 1 connectors
❽ REMOTE 2 connector
❾ ISR connector
❿ CONTROL UNIT connector
❶ MAIN POWER switch
❷ AC IN socket
❸ Fuse
❹ Deflection option slot

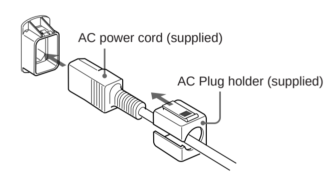
### BVM-D24E1WU/D24E1WE/D24E1WA


❺ Analog input/output connectors
❻ Input option slots
❼ REMOTE 1 connectors
❽ REMOTE 2 connector
❾ ISR connector
❿ CONTROL UNIT connector
❶ MAIN POWER switch
❷ AC IN socket
❸ Fuse
❹ Deflection option slot (Digital uniformity adaptor installed as standard)

**❶ MAIN POWER switch**
When turned on, the monitor enters operation mode. By setting in the SYSTEM CONFIGURATION menu, the monitor can also be set to enter standby mode when the MAIN POWER switch is turned on.

*For information about the SYSTEM CONFIGURATION menu, see “ C4 Setting the Channel Selection Method, Power-Up Conditions and Decoder (SET UP 4) — SYSTEM CONFIGURATION Menu” on page 44.*

**❷ AC IN socket (3-pin)**
Connects the monitor to an AC power source, via the supplied AC power cord.

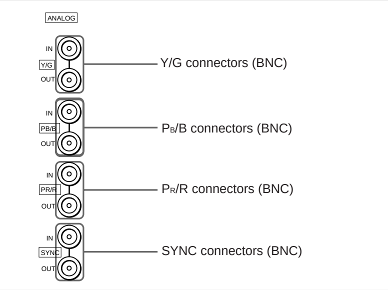

AC power cord (supplied)
AC Plug holder (supplied)

Attach the AC Plug holder to the AC power cord, and connect it to the AC IN socket so that the cord does not come loose.

**❸ Fuse**
Use a T4AH fuse.

**❹ Deflection option slot**
For the BVM-D24E1WU/D24E1WE/D24E1WA, the digital uniformity adaptor has been installed at the factory.
For the BVM-D20F1U/D20F1E/D20F1A, this slot is provided for future use.

**❺ Analog input/output connectors**


ANALOG
IN
Y/G
OUT
IN
PB/B
OUT
IN
PR/R
OUT
IN
SYNC
OUT
Y/G connectors (BNC)
PB/B connectors (BNC)
PR/R connectors (BNC)
SYNC connectors (BNC)

GBR signals, component signals (Y/$P_B$/$P_R$), or composite sync signals can be fed in the IN connectors. The type of signal applied to each connector is set with the INPUT CONFIGURATION menu. The OUT connectors are used for loop-through output of the input signal. When not using loop-through, connect a 75-ohm terminator (not supplied) to the OUT connectors.

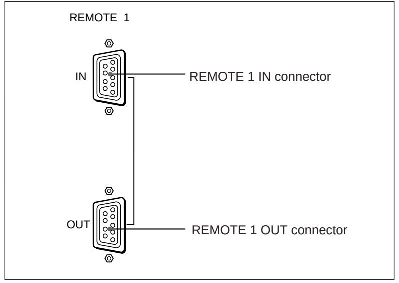
*For information about the INPUT CONFIGURATION menu, see “ C1 Setting the Input Configuration (SET UP 1) — INPUT CONFIGURATION Menu” on page 35.*

**❻ Input option slots**
The monitor may be fitted with optional decoder adaptors.

**Note**

The BKM-41HD and BKM-42HD use two input option slots.

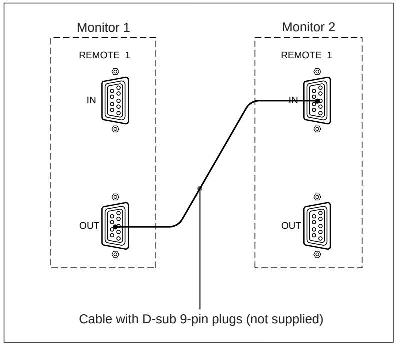
**❼ REMOTE 1 connectors (female, D-sub 9-pin)**


REMOTE 1
IN
OUT
REMOTE 1 IN connector
REMOTE 1 OUT connector

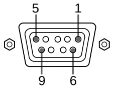
These are RS-485 serial interface connectors, used for connecting two or more BVM-Dxx, BVM-xxE/F/G and HDM-xxE series monitors.
The IN and OUT connectors form a loop-through connection.
Connect two monitors using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as shown in the figure on the next page.

*(continued)*

## Location and Function of Parts



**❽ REMOTE 2 connector (female, D-sub 9-pin)**
Forms a parallel switch and controls the monitor externally. The pin assignment and factory setting function assigned to each pin are given below.



| Pin number | Function |
|---|---|
| 1 | Set input signal channel 1 (numeric keypad function) |
| 2 | Set input signal channel 2 (numeric keypad function) |
| 3 | Select sync signal (SYNC button function) |
| 4 | Set the screen to monochrome, or set for automatic switching based on the input signal (MONO MODE button function) |
| 5 | Safe area on/off (SAFE AREA button function) |
| 6, 7 | Not connected |
| 8 | Tally lamp on/off |
| 9 | Ground |

All pin function assignments can be changed with the REMOTE menu.

*For information about the REMOTE menu, see “ C2 Assigning the Remote Control Functions (SET UP 2) — REMOTE Menu” on page 40.*

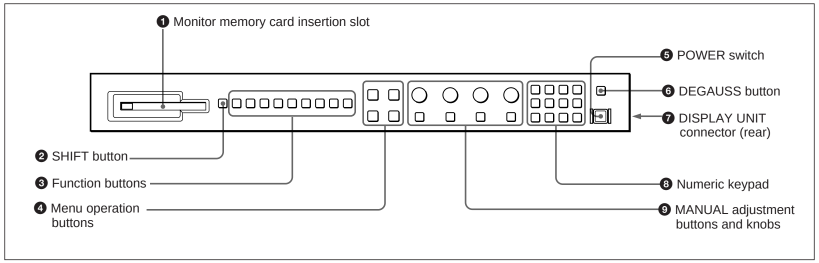
To switch each function between on and off or between enable and disable, change pin connections in the following way.
**ON or enabled:** Short each pin and pin 9 together.
**OFF or disabled:** Leave each pin open.

**❾ ISR (Interactive Status Reporting) connector (female, D-sub 9-pin)**
Connect to the ISR system.

**❿ CONTROL UNIT connector (female, D-sub 9-pin)**
Connects the BKM-10R Monitor Control Unit using a cable with D-sub 9-pin plugs such as an RCC-5G/10G/30G (not supplied) or the cable supplied with the BKM-32H/34H Monitor Control Unit Attachment Kit.

## BKM-10R Monitor Control Unit (Optional)

This manual explains the location and function of parts and controls of the optional BKM-10R Monitor Control Unit. The explanation applies to the optional BKM-11R Monitor Control Unit.


❶ Monitor memory card insertion slot
❷ SHIFT button
❸ Function buttons
❹ Menu operation buttons
❺ POWER switch
❻ DEGAUSS button
❼ DISPLAY UNIT connector (rear)
❽ Numeric keypad
❾ MANUAL adjustment buttons and knobs

**❶ Monitor memory card insertion slot**
Insert the BKM-12Y Monitor Memory Card (optional).

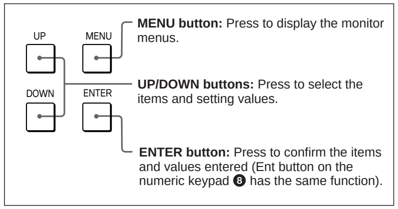
*For inserting/ejecting the monitor memory card, see page 20.*

**❷ SHIFT button**
Press to select one of the two functions designated to the function buttons ❸.
Each time the SHIFT button is pressed, the LED turns on (SHIFT ON: lit in amber) and off (SHIFT OFF).
**SHIFT OFF:** The functions indicated above the function buttons can be used (the LED of the function button lits in green).
**SHIFT ON:** The functions indicated below the function buttons can be used (the LED of the function button lits in amber).

**❸ Function buttons**
Change the operation conditions for the monitor.
Each time the button is pressed, the LED turns on and turns off, and the operation conditions are changed.
Each button has two functions. Select one of the two functions by pressing the SHIFT button ❷. When the SHIFT button is set to ON, the LED lights in amber, and when the SHIFT button is set to OFF, the LED of each button lights in green.

*For the functions of the function buttons in case of SHIFT OFF and SHIFT ON, see pages 17 and 18.*

**❹ Menu operation buttons**



**MENU button:** Press to display the monitor menus.
**UP/DOWN buttons:** Press to select the items and setting values.
**ENTER button:** Press to confirm the items and values entered (Ent button on the numeric keypad ❽ has the same function).

*For more information about menu operation, see “Basic Menu Operations” on page 22.*

**❺ POWER switch**
Press to turn on/off the monitor. By setting with the ADDRESS menu, it is possible to turn on/off the power of the specified monitors only, or of all monitors at the same time.

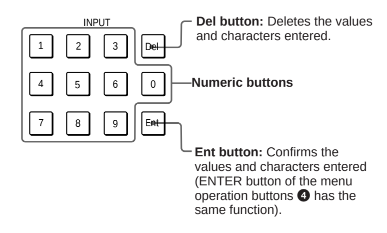
*For information about the ADDRESS menu, see “Selecting the Monitor to Control — ADDRESS Menu” on page 59.*

**❻ DEGAUSS button**
Press to degauss the CRT (every time the monitor is turned on, the CRT is degaussed automatically). To degauss again, wait for more than five minutes.

*(continued)*

**❼ DISPLAY UNIT connector (rear)**
Connect to the CONTROL UNIT connector of the monitor, using an optional RCC-5G/10G/30G cable or the cable supplied with the BKM-32H or BKM-34H Monitor Control Unit Attachment Kit.
The power is supplied from the monitor and the control signal is sent and received via this connector.

**❽ Numeric keypad**
Use to designate the channel number for the input signal to be monitored, or to enter the setting values with the menus.



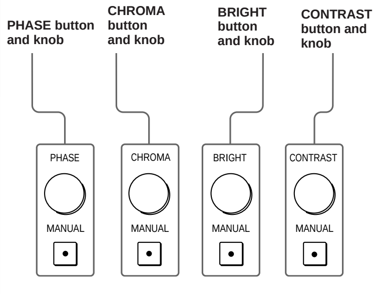
**Del button:** Deletes the values and characters entered.

**Numeric buttons**

**Ent button:** Confirms the values and characters entered (ENTER button of the menu operation buttons ❹ has the same function).

**Channel number entry method**
When selecting a channel number from 1 to 9, press one-digit channel number on the numeric keypad.
When selecting a channel number from 10 to 99, press 0 button, then press the two-digit channel number.

**❾ MANUAL adjustment buttons and knobs**
Each press of one of these buttons turns the button's green LED on or off. When the corresponding button is on (lit), it is possible to manually adjust the contrast, brightness, chroma and phase by turning the corresponding knobs. The PHASE knob is also used to enter the setting values with the menus. It is possible to set the preset value for each adjusting item with the CONTROL PRESET ADJ menu.

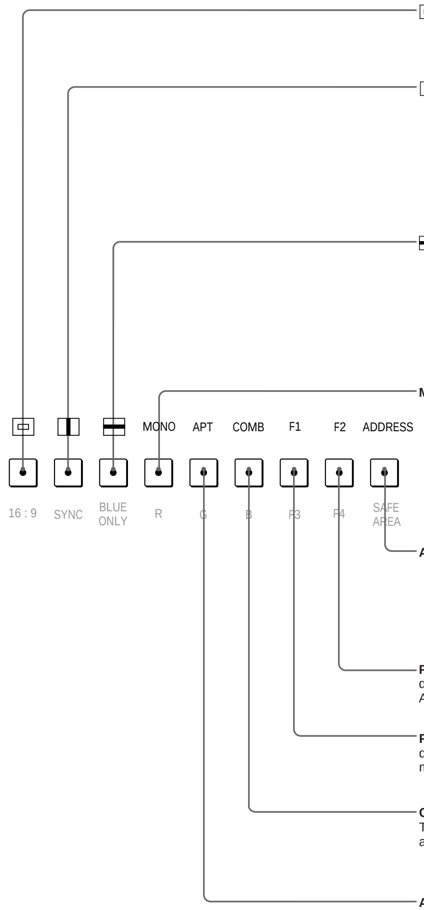


*For information about the CONTROL PRESET ADJ menu, see "* A *Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ menu" on page 28.*

**Notes**

- The signal phase cannot be adjusted when using the composite SECAM, composite PAL D, component or SDI (component or composite serial digital interface) format.
- The phase and chroma cannot be adjusted when using GBR signals.

### Function buttons in SHIFT OFF mode (LEDs of function buttons in green)



▭ **(Underscan) button:** When this button is pushed in (ON), the picture is underscanned by 3%, and four ends of the raster is displayed on the screen.

◫ **(H delay) button:** When this button is pushed in (ON), the picture moves horizontally, and a horizontal sync signal appears approximately 3/8 in the left edge of the screen.

- The brightness of the picture increases automatically, and it makes it easy to check the sync part.
- If it is pressed together with the ⊟ button, a pulse cross picture is displayed.

⊟ **(V delay) button:** When this button is pushed in (ON), the picture moves vertically, and a vertical sync signal appears approximately in the center of the screen.

- The brightness of the picture increases automatically, and it makes it easy to check the sync part.
- If it is pressed together with ◫ button, a pulse cross picture is displayed.

**MONO button:** When this button is pushed in (ON), a monochrome picture is displayed. When the buttons is off, the monitor switches automatically between color and monochrome mode, depending on the presence or absence of color burst signal.

**Note**

The MONO button does not function with the GBR signal input.

**ADDRESS button:** When this button is pushed in (ON), the ADDRESS menu appears on the screen. By using the ADDRESS menu, operation conditions for multiple monitors are set.
*For more information about the ADDRESS menu, see "Selecting the Monitor to Control — ADDRESS Menu" on page 59.*

**F2 button:** When this button is pushed in (ON), you can access directly the MANUAL menu of the level 2 of the COLOR TEMP ADJ menu, if the short-cut function is assigned to this button.

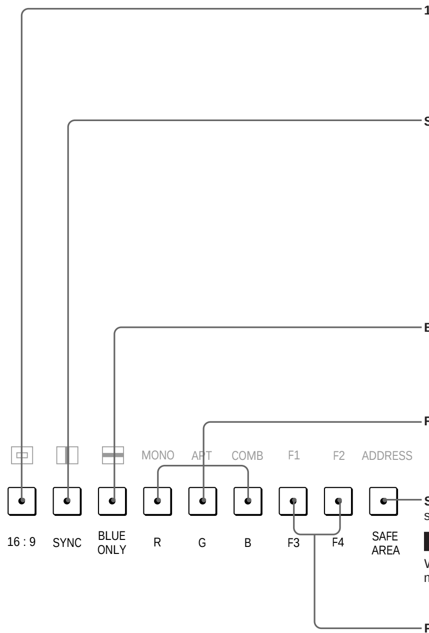
**F1 button:** When this button is pushed in (ON), the characters disappear from the monitor on the MANUAL menu of some menus.

**COMB button:** Turn the comb filter on and off.
This function is available when an optional decoder adaptor such as a BKM-24N is installed. (For NTSC, PAL and PAL-M only)

**APT (aperture) button:** When this button is pushed in (ON), the frequency response can be modified. The degree of modification is set with the menu.
*For information about the aperture modification frequency for each signal format, see "Aperture modification frequency for each signal format" on page 19.*

## Location and Function of Parts

### Function buttons in SHIFT ON mode (LEDs of function buttons in amber)



**16:9 button:** When this button is pushed in (ON), the aspect ratio changes to 16:9, and when set to OFF, the aspect ratio changes to 4:3.
*The aspect ratio is fixed to 16:9 when the signal of some signal formats is input. For details, see "Available Signal Formats" on page 63.*

**SYNC button:** When this button is pushed in (ON), the monitor synchronizes to the sync signal input to the SYNC connectors on the rear panel (EXT SYNC). When set to OFF, it synchronizes to the sync signal included in the signals being monitored (INT SYNC).

**Notes**

- When INT SYNC is selected, use a component or YC signals including a sync signal on the Y signal, and use GBR signal including a sync signal on the G signal.
- To monitor serial digital signals, always select INT SYNC.

**BLUE ONLY button:** When this button is pushed in (ON), red and green signals are cut, and only the blue signal is displayed as a monochrome picture. It makes it easy to adjust CHROMA and to check VTR noise.

**R/G/B buttons:** When these buttons are pushed in (ON), R(red), G(green), and B(blue) beams are cut respectively.

**SAFE AREA button:** When this button is pushed in (ON), a safe area is displayed on the screen.

**Note**

When EXT SYNC is selected, the safe area display possibly may not be shown in the correct position.

**F3/F4 buttons:** For future expansion.

### Aperture modification frequency for each signal format

| Signal format | Serial digital input | | Analog input | | |
|---|---|---|---|---|---|
| | SDI | HD SDI | Composite (Y/C) | Component (YPBPR) | GBR |
| 575/50I | 5 MHz | | 5 MHz | 5 MHz* | * |
| 480/60I | 5 MHz | | 5 MHz | 5 MHz* | * |
| 1080/48I | | 25 MHz** | | 25 MHz | 25 MHz |
| 1080/50I | | 25 MHz** | | 25 MHz | 25 MHz |
| 575/50P | | | | 25 MHz | 25 MHz |
| 480/60P | | | | 25 MHz | 25 MHz |
| 1035/60I | | 25 MHz | | 25 MHz | 25 MHz |
| 1080/60I | | 25 MHz | | 25 MHz | 25 MHz |
| 720/60P | | 25 MHz*** | | 25 MHz | 25 MHz |

An empty frame in the table means that the signal cannot be input or the aperture modification can not operate for that signal even if it is input.

* The aperture modification frequency is 25 MHz when the signal is input via the analog input/output connectors (equipped as standard).

** As the BKM-41HD and BKM-42HD were manufactured before the BVM-D20F1U/D20F1E/D20F1A and BVM-D24E1WU/D24E1WE/D24E1WA were on sale, they cannot receive the HD SDI signal of the 1080/48I or 1080/50I format. To receive the 1080/48I or 1080/50I format signal, consult your authorized Sony dealer.

*** The HD SDI signal of the 720/60P format cannot be received with some BKM-41HD or BKM-42HD. Consult your authorized Sony dealer.

### Inserting/ejecting the BKM-12Y Memory Monitor Card

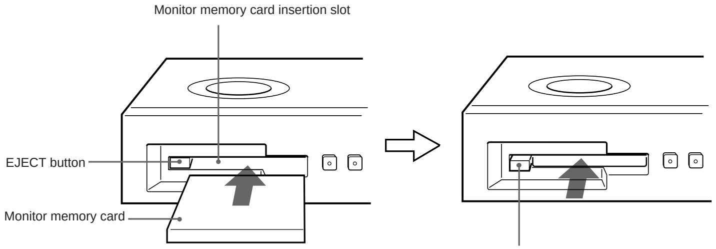
Proceed as illustrated to insert and eject an optional BKM-12Y Monitor Memory Card.

*For information about operations on monitor memory card data, see “ D Monitor Memory Card Data Operations — MEMORY CARD menu” on page 56.*

**Note**

Do not eject the monitor memory card while data is being saved or loaded.

**To insert the BKM-12Y Monitor Memory Card**

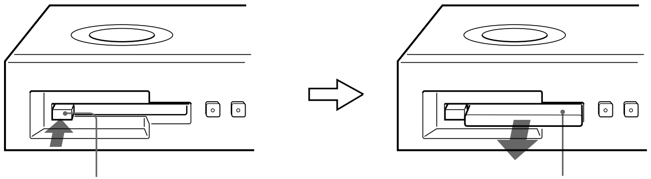


Push the monitor memory card in until the EJECT button comes out.

**Note**

Be careful not to let your hands touch the connectors on the front edge of the monitor memory card.

**To eject the BKM-12Y Monitor Memory Card**



Press the EJECT button to eject the monitor memory card.

Take out the monitor memory card.

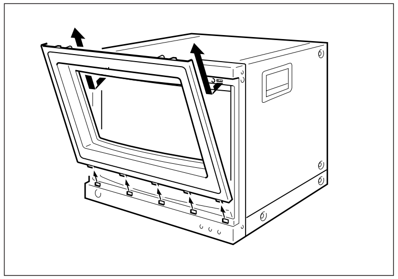
## Installation of the 4:3 Mask

### (BVM-D20F1U/D20F1E/D20F1A only)

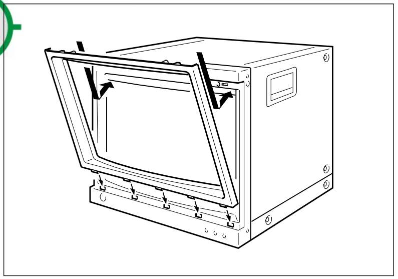
When the BVM-D20F1U/D20F1E/D20F1A aspect ratio is switched from 16:9 to 4:3, replace the 16:9 mask with the supplied 4:3 mask.

### Installing the 4:3 mask

**1** Remove the 16:9 mask by pulling the top side out and then lifting up from the bottom side.



**2** Install the 4:3 mask (supplied) by inserting the bottom side and then pressing the top side in.



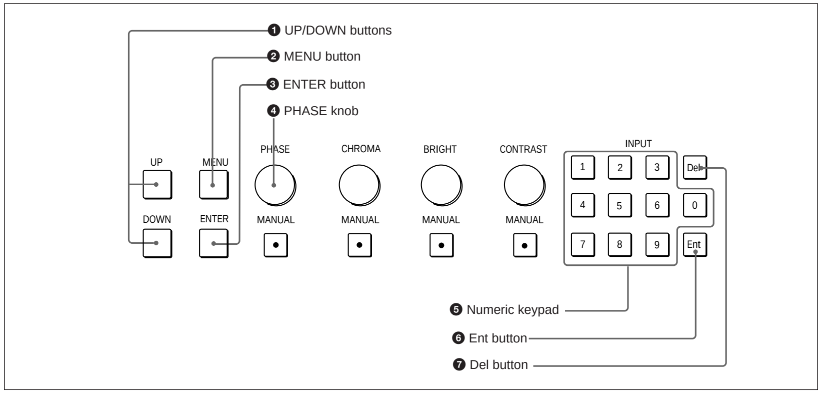
### Replacing the 16:9 mask

Remove the 4:3 mask and replace the 16:9 mask using the same procedures as those for installing the 4:3 mask.

# Basic Menu Operations

## Menu Operation Buttons

The menus are operated using the menu operation buttons on the BKM-10R Monitor Control Unit (optional). The operations are the same for the BKM-11R (optional).


❶ UP/DOWN buttons
❷ MENU button
❸ ENTER button
❹ PHASE knob
UP
MENU
PHASE
CHROMA
BRIGHT
CONTRAST
INPUT
1
2
3
Del
4
5
6
0
7
8
9
Ent
DOWN
ENTER
MANUAL
MANUAL
MANUAL
MANUAL
❺ Numeric keypad
❻ Ent button
❼ Del button

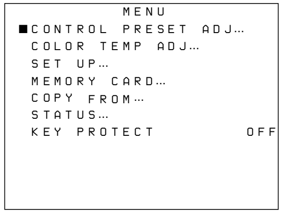
The functions of the menu operation buttons are described below.

| Button | Function |
|---|---|
| ❶UP button | Moves the cursor upward. In setting mode, increases the setting and adjustment values. |
| ❶DOWN button | Moves the cursor downward. In setting mode, decreases the setting and adjustment values. |
| ❷MENU button | Displays the menus. Goes back to the menu of the upper level (on the Main Menu, goes back to the normal picture). |
| ❸ENTER button/<br>❻Ent button | Executes the items selected and settings. |
| ❹PHASE knob | By turning this knob clockwise, the cursor moves upward. In setting mode, increases the setting and adjustment values (has the same function as UP button).<br>By turning this knob counterclockwise, the cursor moves downward. In setting mode, decreases the setting and adjustment values (has the same function as DOWN button). |
| ❺Numeric keypad | Enters the numerical values. |
| ❼Del button | Deletes the values and characters entered. |

## Displaying the Menus

Press the MENU button.

The menu list is displayed on the screen.



```
         MENU
■CONTROL PRESET ADJ…
 COLOR TEMP ADJ…
 SET UP…
 MEMORY CARD…
 COPY FROM…
 STATUS…
 KEY PROTECT          OFF
```

Menu List

When you select one item on the main menu, the level 1 menu corresponding to the selected item on the main menu appears.

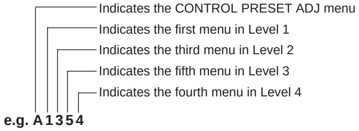
*For information about the items on the main menu, see "Menu Structure" on page 27.*

**Note**

Menu settings displayed in blue cannot be changed.

### About menu numbers

For purposes of explanation in this manual, each menu is preceded by menu numbers. The alphabet determines the classification of Menus on the Menu List (Main Menu), and the numbers determine the level and the order. These menu numbers are not shown on the screen.


Indicates the CONTROL PRESET ADJ menu
Indicates the first menu in Level 1
Indicates the third menu in Level 2
Indicates the fifth menu in Level 3
Indicates the fourth menu in Level 4
e.g. A1354

**Note**

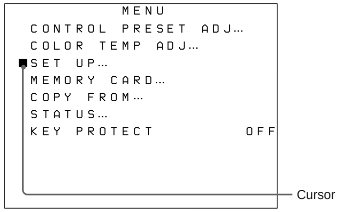
Only the menus which require explanation are preceded by menu numbers. Thus, the menu number is counted without menus which do not require explanation.

## Menu Operation

Follow the steps described below to display the menu and perform the adjustment or setup you wish.

1. Press the MENU button ❷.
   The Menu List is displayed.

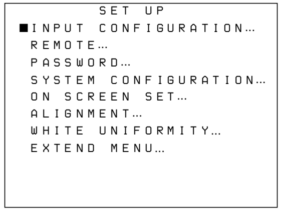
2. Using the UP/DOWN buttons ❶ or PHASE knob ❹, move the cursor to the desired item. (Example: select the SET UP menu by pressing the DOWN button.)



```
         MENU
 CONTROL PRESET ADJ…
 COLOR TEMP ADJ…
■SET UP…
 MEMORY CARD…
 COPY FROM…
 STATUS…
 KEY PROTECT          OFF
```

Menu List

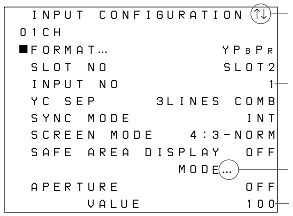
3. Press the ENTER button ❸ or Ent button ❻.
   The Level 1 of the selected menu is displayed.



```
         SET UP
■INPUT CONFIGURATION…
 REMOTE…
 PASSWORD…
 SYSTEM CONFIGURATION…
 ON SCREEN SET…
 ALIGNMENT…
 WHITE UNIFORMITY…
 EXTEND MENU…
```

*(continued)*

**4** Repeat steps **2** and **3** until the desired menu is displayed.
*For more information about setting and adjustments, see below.*



```
  INPUT CONFIGURATION ↑↓
01CH
■FORMAT…            YPBPR
 SLOT NO            SLOT2
 INPUT NO               1
 YC SEP       3LINES COMB
 SYNC MODE            INT
 SCREEN MODE   4:3-NORM
 SAFE AREA DISPLAY    OFF
                MODE…
 APERTURE             OFF
      VALUE           100
```

[↓] indicates that the menu continues onto next page.
[↑] indicates that the menu is continued from previous page.

Selects from various options.

Indicates that this item has sub-list. Thus, you can go to the lower level.

Enters numerical values.

### To abort menu operation

Press the MENU button. The menu of the upper level is displayed.
The setting or adjustment being performed is canceled, and data loading or saving is aborted.

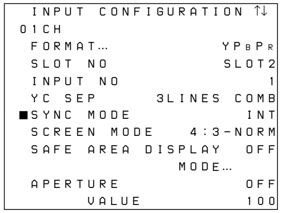
### If “NG” or “ERROR” appears during menu operation

Press the MENU button to return to the menu in use.

## Choosing one of two or more selections

### Selecting in yellow text

**1** Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item and press the ENTER or Ent button.
The selected item is displayed in yellow text and set to setting mode.



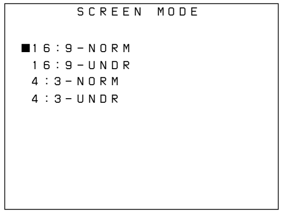
```
  INPUT CONFIGURATION ↑↓
01CH
 FORMAT…            YPBPR
 SLOT NO            SLOT2
 INPUT NO               1
 YC SEP       3LINES COMB
■SYNC MODE            INT
 SCREEN MODE   4:3-NORM
 SAFE AREA DISPLAY    OFF
                MODE…
 APERTURE             OFF
      VALUE           100
```

**2** Using the UP/DOWN buttons or PHASE knob, change the setting.

**3** Press the ENTER or Ent button.
The setting is confirmed (The item is displayed in white text again).

### Selecting from the setting list

**1** Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item in the setting list.

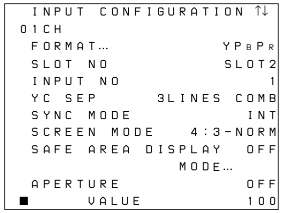


```
      SCREEN MODE

■16:9-NORM
 16:9-UNDR
 4:3-NORM
 4:3-UNDR
```

**2** Press the ENTER or Ent button.
The display returns to the menu of the upper level, and the selected setting is executed.

## Entering a numerical value

**1** Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item and press the ENTER or Ent button.
The selected item is displayed in yellow text and set to setting mode.



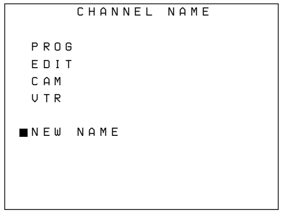
```
  INPUT CONFIGURATION ↑↓
01CH
 FORMAT…            YPBPR
 SLOT NO            SLOT2
 INPUT NO               1
 YC SEP       3LINES COMB
 SYNC MODE            INT
 SCREEN MODE   4:3-NORM
 SAFE AREA DISPLAY    OFF
                MODE…
 APERTURE             OFF
■     VALUE           100
```

**2** Set the value in one of the following three ways:
- Enter the value directly using the numeric keypad and press the ENTER or Ent button
- Select the value using the UP/DOWN buttons
- Select the value using the PHASE knob

**3** Press the ENTER or Ent button.
The setting is confirmed (The item is displayed in white text again).

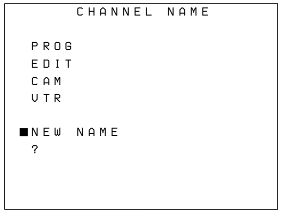
## Entering characters

**1** Display the setting menu and set the cursor to NEW NAME using the UP/DOWN buttons or PHASE knob.



```
      CHANNEL NAME

 PROG
 EDIT
 CAM
 VTR

■NEW NAME
```

**2** Press the ENTER or Ent button.
“?” is displayed in yellow. The “?” indicates the position where character input is possible.



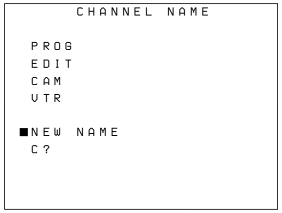
```
      CHANNEL NAME

 PROG
 EDIT
 CAM
 VTR

■NEW NAME
 ?
```

**3** Select the character you wish to enter using the UP/DOWN buttons or PHASE knob.
When you press the UP button, or turn the PHASE knob clockwise, the characters and symbols appear in the order shown below.

A B .............Y Z 0 1 ...............8 9 ( , )
: ; . – + / & (space) ?

If you press the UP/DOWN button or turn the PHASE knob counterclockwise, the characters and symbols appear in the reverse order described above.

**4** Press the ENTER or Ent button.
The selected character is entered.



```
      CHANNEL NAME

 PROG
 EDIT
 CAM
 VTR

■NEW NAME
 C?
```

**5** Repeat steps **3** and **4** until all the characters are entered, then press the ENTER or Ent button.
The selected characters are confirmed, and the display returns to the menu of the previous level.

### To correct the entered character

Press the Del button on the numeric keypad. The character on the left side of the “?”(in yellow) is deleted.

## ADDRESS Menu

In addition to the menus displayed on the menu list, the ADDRESS menu is provided. This ADDRESS menu is used to select the monitor or the monitor group by assigning the address number or group address number, so that when several monitors are connected together via serial remote ports, the control panel can select which monitor to control.
To display or exit the ADDRESS menu, press the ADDRESS button. The method of choosing menu items and changing settings is the same as with the other menus.

*For information about the ADDRESS menu, see “Selecting the Monitor to Control —ADDRESS Menu” on page 59.*

# Menu Structure

Menus consist of two to six levels. The Main Menus displayed on the Menu List and Level 1 are shown below.

Detailed information on the levels of menus is described at the top of explanation of each menu.

| Main Menu | Level 1 | Functions |
|---|---|---|
| CONTROL PRESET ADJ A | PRESET A1<br>CH SET A1 | Sets the preset values for the input signal contrast, brightness, chroma, and phase. (page 28) |
| COLOR TEMP ADJ B | STD B1<br>COL1 B2<br>COL2 B3<br>CH SET B4 | Sets the color temperature. (page 30) |
| SET UP C | | A menu group for performing monitor setup, consisting of the following. |
| | INPUT CONFIGURATION C1 | Sets the input channel. (page 35) |
| | REMOTE C2 | Sets the remote control functionality. (page 40) |
| | PASSWORD C3 | Sets passwords for menus. (page 42) |
| | SYSTEM CONFIGURATION C4 | Sets the input channel selection method, power-up conditions and decoder. (page 44) |
| | ON SCREEN SET C5 | Sets data about the screen display. (page 46) |
| | ALIGNMENT C6 | Adjusts the screen convergence, and geometry. (page 48) |
| | WHITE UNIFORMITY C7 | Adjusts the beam landing and color uniformity of the CRT (BVM-D24E1WU/D24E1WE/D24E1WA only). (page 50) |
| | EXTEND MENU C8 | Loads the factory default data for the board installed. (page 54) |
| MEMORY CARD D | SAVE D1<br>LOAD D2<br>DELETE D3<br>FORMAT D4 | Operates on data in the memory card. (page 56) |
| COPY FROM E | MONITOR ADDRESS E1 | Copies set-up data from other connected monitors. (page 57) |
| STATUS F | STATUS (1/3) F1<br>STATUS (2/3) F2<br>STATUS (3/3) F3 | Displays the information about the monitor or options installed in the monitor. (page 58) |
| KEY PROTECT G | | When set to ON, function buttons on the control unit (with the exception of menu operation buttons) will be disable. When set to OFF, key protection is removed. |

# A Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ Menu

## Overview

The preliminary adjustments of contrast, brightness, chroma and phase are carried out with the CONTROL PRESET ADJ menu, to set the preset values to the knobs for the above-mentioned adjustments.
Preset values can be set either commonly to all channels or separately for individual channels.

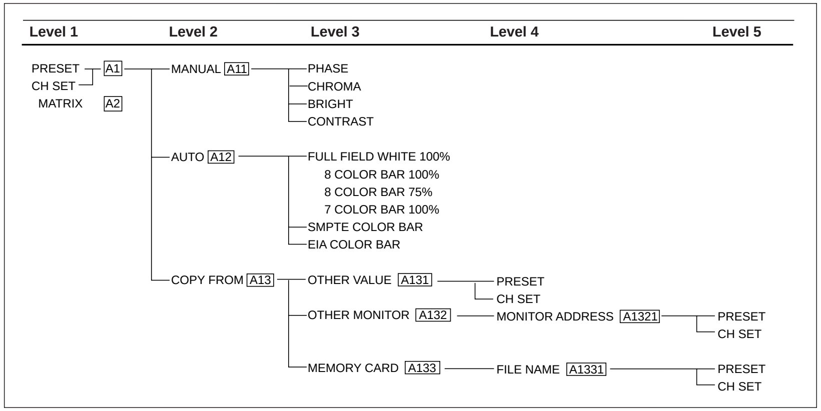
Preset values can be set in the following ways:

- **Adjustment with the MANUAL knobs (MANUAL menu)**
- **Automatic adjustment (AUTO menu)**
  An external color bar signal is necessary.
- **Copying data (COPY FROM menu)**
  Copying data from other channels, common data, or other BVM-DxxE/DxxF series monitors that have been connected via the serial remote connector, or from data stored in monitor memory cards

**Note**

Data copy is impossible between monitors other than BVM-DxxE/DxxF series.

## Structure of the CONTROL PRESET ADJ Menu



## Setting Lists in the CONTROL PRESET ADJ Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see "About menu numbers" on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### A CONTROL PRESET ADJ menu

Select either PRESET or CH SET. ⇨A1
**PRESET... :** Set common values.
**CH SET... :** Set values for each individual channel.
**MATRIX...:** Set the data area for each individual channel when CH SET is selected. ⇨A2

### A1 PRESET menu/CH SET menu

Select the setting method.
**MANUAL... :** Set with the MANUAL knobs. ⇨A11
**AUTO... :** Set by automatic adjustment. ⇨A12
**COPY FROM... :** Copy data from elsewhere. ⇨A13

### A2 MATRIX menu

Select the data area for the $YP_BP_R$ (SMPTE/EBU-N10), SDI 4:2:2 and HD SDI signals. The ITU 709, ITU 601 or SMPTE 240M can be selected for each signal format.
The selected data area is common to all the channels.
The factory settings are as follows:

1080/60I: ITU 709 (default)
1080/50I: ITU 709 (default)
1080/48I: ITU 709 (default)
1035/60I: SMPTE 240M (default)
720/60P: ITU 709 (default)
575/50P: ITU 601 (default)
575/50I: ITU 601 (default)
480/60P: ITU 601 (default)
480/60I: ITU 601 (default)

**Notes**

- When PRESET is selected, the same MATRIX data as the above are used automatically.
- The ITU 601 data is used for the COMPOSITE, YC, $YP_BP_R$ (BETACAM), GBR and SDI (D2) signals, regardless of the settings on the MATRIX menu.

### A11 MANUAL menu

Adjust values by turning the PHASE, CHROMA, BRIGHT, and/or CONTRAST knobs. After the adjustment, press the ENTER or Ent button to confirm the adjusted values.

**PHASE:** xxxx **BRIGHT:** xxxx
**CHROMA:** xxxx **CONTRAST:** xxxx

**When you want to erase characters from the screen while adjusting manually**
Press the F1 button. The characters disappear. To display characters, press the F1 button again.

**To reset the setting to the default**
Press the corresponding MANUAL button. The adjusted value is reset to 1000 (default).

### A12 AUTO menu

Select the color bar signal to be used for automatic adjustment. ⇨Adjustment is carried out.
**8COLOR BAR 100%:** 100% full-field 8-color bar (white, yellow, cyan, green, magenta, red, blue and black)
**8COLOR BAR 75%:** 75% full-field 8-color bar (with 100% white signal, effective for 15K signal only)
**7COLOR BAR 100%:** 100% full-field 7-color bar (white, yellow, cyan, green, magenta, red and blue) (with 100% white signal, not selectable for 15K signal)
**SMPTE COLOR BAR:** SMPTE standard color bar (effective for 15K signal only)
**EIA COLOR BAR:** EIA standard color bar (effective for 15K signal only)

**Note**

When you execute the AUTO menu, SYNC button should be set to OFF (INT SYNC).
EXT SYNC will cause an error abortion of auto adjustment procedure.

### A13 COPY FROM menu

Select the source to be copied from.
**OTHER VALUE... :** Copy data from another channel or common data. ⇨A131
**OTHER MONITOR... :** Copy data from another monitor. ⇨A132
**MEMORY CARD... :** Copy data from a memory card. ⇨A133

### A131 OTHER VALUE menu

Choose either PRESET or CH SET.
⇨ Copy is carried out.
**PRESET:** Copy common data.
**CH SET:** Copy data set for another channel. Input the number of the channel from which the data will be copied.

### A132 OTHER MONITOR menu

Input the address of the monitor from which the data will be copied. ⇨ A1321
**MONITOR ADDRESS:** Input the address number.

### A1321 MONITOR ADDRESS menu

Choose either PRESET or CH SET.
⇨ Copy is carried out.
**PRESET:** Copy common data.
**CH SET:** Copy data set for another channel. Input the number of the channel from which the data will be copied.

### A133 MEMORY CARD menu

Select the file name. ⇨ A1331
**FILE NAME:** Select the file name.

### A1331 FILE NAME menu

Choose either PRESET or CH SET.
⇨ Copy is carried out.
**PRESET:** Copy common data.
**CH SET:** Copy data set for another channel. Input the number of the channel from which the data will be copied.

http://getMANUAL.com

# B Adjusting the Color Temperature — COLOR TEMP ADJ Menu

## Overview

The color temperature is adjusted with the COLOR TEMP ADJ menu. The color temperature can be set either commonly to all channels (STD, COL1 and COL2 menus) or individually for each channel (CH SET menu).
Use the factory setting value or the adjusted value as an original value to shorten the adjustment time.

Color temperature adjustment can be made in the following four ways:

- **Knob adjustment (MANUAL menu)**
  You can adjust the color temperature with the bias and gain knobs.

- **Automatic adjustment using a probe (PROBE menu)**
  You can use the following probes for automatic adjustment of color temperature. Except for the Sony BKM-14L, a cable is required to connect the color analyzer to the monitor.

| Manufacturer | Probe Model Name |
|---|---|
| SONY | BKM-14L (no cable required) |
| GRASEBY | SLS 9400 |
| MINOLTA | CA-100 |
| PHILIPS | PM 5639 |
| THOMA | TF6 |

*For more information about the cable specification required and about the connection, see "Connection Cable Specifications for Color Temperature Probes" on page 66.*

- **Copying other data (COPY FROM menu)**
  You can copy data from other channels, common data, or other BVM-DxxE/DxxF series monitors that have been connected via the serial remote connector, or from data stored in monitor memory cards.

**Note**

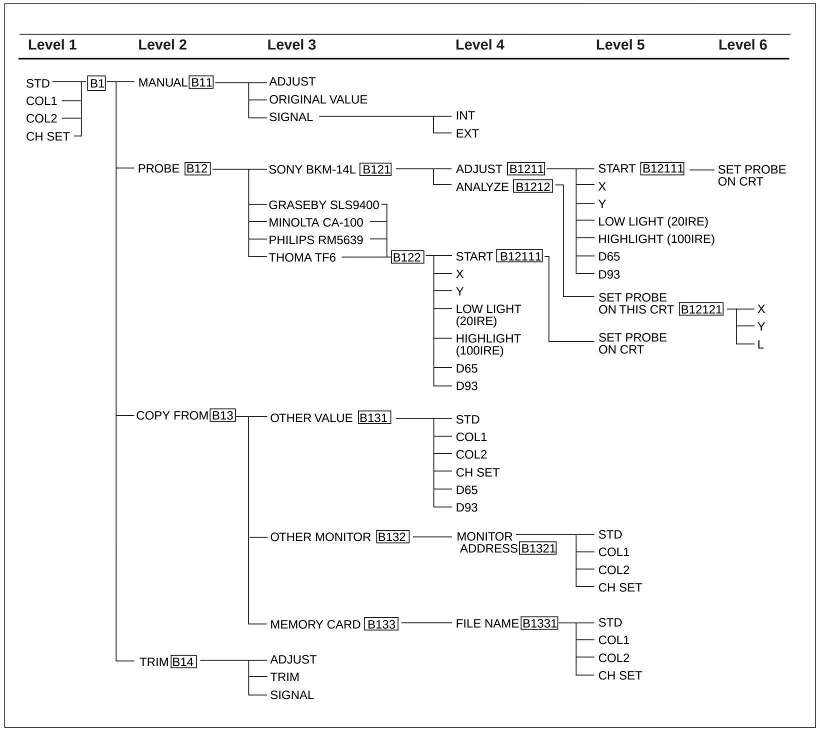
Data copy is impossible between monitors other than BVM-DxxE/DxxF series.

- **Fine adjustment after the color temperature adjustment (TRIM menu)**
  You can perform fine adjustment of the gain and bias and add the data to the original adjustment data.

### Before adjusting the color temperature

We recommend that you perform the automatic adjustment using the AUTO menu A12 of the CONTROL PRESET ADJ menu before adjusting the color temperature.

## Structure of the COLOR TEMP ADJ Menu


Level 1
Level 2
Level 3
Level 4
Level 5
Level 6
STD
COL1
COL2
CH SET
B1
MANUAL B11
ADJUST
ORIGINAL VALUE
SIGNAL
INT
EXT
PROBE B12
SONY BKM-14L B121
ADJUST B1211
ANALYZE B1212
START B12111
SET PROBE ON CRT
X
Y
LOW LIGHT (20IRE)
HIGHLIGHT (100IRE)
D65
D93
GRASEBY SLS9400
MINOLTA CA-100
PHILIPS RM5639
THOMA TF6
B122
START B12111
X
Y
LOW LIGHT (20IRE)
HIGHLIGHT (100IRE)
D65
D93
SET PROBE ON THIS CRT B12121
X
Y
L
SET PROBE ON CRT
COPY FROM B13
OTHER VALUE B131
STD
COL1
COL2
CH SET
D65
D93
OTHER MONITOR B132
MONITOR ADDRESS B1321
STD
COL1
COL2
CH SET
MEMORY CARD B133
FILE NAME B1331
STD
COL1
COL2
CH SET
TRIM B14
ADJUST
TRIM
SIGNAL

## Setting Lists in the COLOR TEMP ADJ Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see "About menu numbers" on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### B COLOR TEMP ADJ menu

Select STD, COL 1, COL2, or CH SET. ⇨B1

**STD:** Use common data (factory setting: D65).

**COL1:** Use common data (factory setting: D93).

**COL2:** Use common data (factory setting: D65).

**CH SET:** Use data for each individual channel (factory setting: D65). Use the numeric keypad to select the desired channel.

### B1 STD/COL1/COL2/CH SET menu

Select the adjustment method.

**MANUAL... :** Set with the MANUAL knob. ⇨B11

**PROBE... :** Set using a probe. ⇨B12

**COPY FROM... :** Copy data from elsewhere. ⇨B13

**TRIM... :** Perform fine adjustments after setting the color temperature. ⇨B14

### B11 MANUAL menu

Select the adjustment method.

**ADJUST... :** Adjust the gain and bias. To shift between gain adjustment and bias adjustment, press UP/DOWN buttons. Use appropriate knobs in each adjustment as described below. After the adjustment, press the ENTER or Ent button to confirm the adjusted values.

**RED:** CONTRAST KNOB (Adjust the R gain or bias with the CONTRAST knob.)

**GREEN:** BRIGHT KNOB (Adjust the G gain or bias with the BRIGHT knob.)

**BLUE:** CHROMA KNOB (Adjust the B gain or bias with the CHROMA knob.)

**LUMINANCE:** PHASE KNOB (Adjust luminance with the PHASE knob.)

**To reset RED/GREEN/BLUE to the value before adjustment**

When you are adjusting the gain or bias using the MANUAL adjustment knobs, you can reset the setting to the one before adjustment by pressing the corresponding MANUAL button.

To reset all of settings at the same time, press the PHASE button.

**Note**

You cannot reset the setting after you press the ENTER or Ent button.

**ORIGINAL VALUE... :** Set the initial value.

**STD:** Use common data (factory setting: D65).

**COL1:** Use common data (factory setting: D93).

**COL2:** Use common data (factory setting: D65).

**CH SET:** Use data for a particular channel (factory setting: D65).

**SIGNAL:** Select the white signal to be used for adjustment.

**INT:** Use an internal signal. Simultaneously with the adjustment of the gain and bias, the 100 IRE and 20 IRE signals are automatically switched.

**EXT:** Use an external input signal. When adjusting the gain and bias, input the proper signal.

**To access the MANUAL menu directly**

When the F2 button is assigned as the short-cut key to the MANUAL menu, you can directly access the MANUAL menu that corresponds to the color temperature setting (STD/COL1/COL2/CH SET) set to the image on the screen.

*For details of how to assign the short-cut key, see " C4 Setting the Channel Selection Method, Power-Up Conditions and Decoder (SET UP 4) — SYSTEM CONFIGURATION Menu" on page 44.*

### B12 PROBE menu

Select the probe for color temperature adjustment.

**SONY BKM-14L...:** Use the BKM-14L. ⇨B121

**GRASEBY SLS 9400...:** Use the SLS 9400. ⇨B122

**MINOLTA CA-100...:** Use the CA-100. ⇨B122

**PHILIPS PM 5639...:** Use the PM 5639. ⇨B122

**THOMA TF6...:** Use the TF6. ⇨B122

- If you cannot execute an ADJUST or ANALYZE menu operation when using the Sony BKM-14L probe, try again after disconnecting and reconnecting the probe.
- When using the Thoma TF6 probe, set the TF6 PRINT menu to off.

### B121 SONY BKM-14L menu

Select the BKM-14L operation.

**ADJUST... :** Perform automatic color temperature adjustment. ⇨B1211

**ANALYZE:** Display readout values on the screen. ⇨B1212

### B1211 ADJUST menu

To start adjustment, proceed as follows.

When you use the previously adjusted values for adjustment, you can make start adjustment by selecting START without performing step (1) and step (2).

(1) Select either D65 or D93.
Rather than selecting D65 or D93, you may instead enter the values of the CIE 1931 color system x and y coordinates.

(2) Enter values for LOW LIGHT and HIGH LIGHT.

(3) Select START.

**START:** Start adjustment. ⇨B12111

**X:** Enter the x coordinate.

**Y:** Enter the y coordinate.

**LOW LIGHT (20IRE):** Enter the luminance (cd/$m^2$) for low light.

**HIGH LIGHT (100IRE):** Enter the luminance (cd/$m^2$) for high light.

**D65:** Use D65 setting.

**D93:** Use D93 setting.

### B12111 START menu

The following message appears. Perform operation according to the message to start adjustment.

**SET PROBE ON CRT**
**PRESS ENTER**

Adjustment starts when the probe is placed against the center of the screen and the ENTER or Ent button is pressed.

### B1212 ANALYZE menu

The following message appears. Perform operation according to the message to enable the BKM-14L to read the color system and luminance value.

**SET PROBE ON THIS CRT**
**PRESS ENTER**

Attach the BKM-14L on the center of the CRT and press the ENTER or Ent button. ⇨B12121

Once the BKM-14L has carried out calibration, the BKM-14L can start analyze the monitor's performance.

### B12121 SET PROBE ON THIS CRT menu

Display the color system and luminance readout values from the BKM-14L system at the bottom of the CRT.

**X:** xxxx: Display the x coordinate of the color system.

**Y:** xxxx: Display the y coordinate of the color system.

**L:** xxxx: Display the luminance value.

### B122 GRASEBY/MINOLTA/PHILIPS/THOMA menu

The forth and lower levels of B122 are the same as those of the fifth and lower levels of B1211. Refer to B1211 and B12111.

### B13 COPY FROM menu

Select the source to be copied from.

**OTHER VALUE... :** Copy data from another channel or from common data. ⇨B131

**OTHER MONITOR... :** Copy data from a BVM-DxxE/DxxF series monitor. ⇨B132

**MEMORY CARD... :** Copy data from a monitor memory card. ⇨B133

### B131 OTHER VALUE menu

Select STD, COL1,COL2, or CH SET. ⇨ Copy is carried out.

**STD:** Copy common data (factory setting: D65).

**COL1:** Copy common data (factory setting: D93).

**COL2:** Copy common data (factory setting: D65).

**CH SET:** Copy data from a particular channel (factory setting: D65). Enter the number of the channel from which the data will be copied.

**D65:** Copy the color temperature of D65.

**D93:** Copy the color temperature of D93.

### B132 OTHER MONITOR menu

Specify the address number of the monitor.

**MONITOR ADDRESS:** Input the address number of the monitor from which the data will be copied. ⇨B1321

### B1321 MONITOR ADDRESS menu

Select STD, COL1, COL2, or CH SET. ⇨ Copy is carried out.

**STD:** Copy common data.

**COL1:** Copy common data.

**COL2:** Copy common data.

**CH SET:** Copy data from a particular channel. Enter the number of the channel from which the data will be copied.

### B133 MEMORY CARD menu

Select the file name. ⇨B1331

**FILE NAME:** Select the file name.

### B1331 FILE NAME menu

Select STD, COL1, COL2, or CH SET of the memory card data. ⇨ Copy is carried out.

**STD:** Copy common data.

**COL1:** Copy common data.

**COL2:** Copy common data.

**CH SET:** Copy data from a particular channel. Enter the number of the channel from which the data will be copied.

### B14 TRIM menu

Finely adjust the gain and bias by selecting ADJUST.

**ADJUST:** Adjust the gain and bias. To shift between gain adjustment and bias adjustment, press UP/DOWN buttons. Use appropriate knobs in each adjustment as described below. After the adjustment, press the ENTER or Ent button to confirm the adjusted values.

- **RED:** CONTRAST KNOB (Adjust the R gain or bias with the CONTRAST knob.)
- **GREEN:** BRIGHT KNOB (Adjust the G gain or bias with the BRIGHT knob.)
- **BLUE:** CHROMA KNOB (Adjust the B gain or bias with the CHROMA knob.)
- **LUMINANCE:** PHASE KNOB (Adjust luminance with the PHASE knob.)

**To reset RED/GREEN/BLUE to the value before adjustment**

When you are adjusting the gain or bias, you can reset the setting to the one before adjustment by pressing the corresponding MANUAL button.

To reset all of settings at the same time, press the PHASE button.

**TRIM:** Select whether to add the fine adjustment to the original setting (gain and bias set in MANUAL menu B11).

- **APPLY:** Adds the fine adjustment to the original setting.
  When APPLY is selected, “XX/TRIM” (XX: the selected color temperature among STD, COL 1 or COL 2) appears on the left top on the COLOR TEMP ADJ menu.
- **NOT APPLY:** Reset the setting to the original setting (gain and bias set in MANUAL menu B11).

**SIGNAL:** Select the white signal to be used for adjustment.

- **INT:** Use an internal signal. Simultaneously with the adjustment of the gain and bias, the 100 IRE and 20 IRE signals are automatically switched.
- **EXT:** Use an external input signal. When adjusting the gain and bias, input the proper signal.

**Note**

Even if NOT APPLY of the TRIM item is selected, pressing the ENTER or Ent button to confirm the adjusted values results in that APPLY will be selected.

# C1 Setting the Input Configuration (SET UP 1) — INPUT CONFIGURATION Menu

## Overview

Data pertaining to the input signals are set with the INPUT CONFIGURATION menu.

When a channel number (1 to 90) is entered with the numeric keypad, it is then possible to set which input connector on the rear panel will be assigned to that channel number, and select the type of signal that will be connected.

The following data can be set with the INPUT CONFIGURATION menu.

- **Assigning the signal FORMAT**
- **Assigning the SLOT NO**
- **Assigning the INPUT NO (input connector number)**
- **Selecting the YC SEP (separation) filter**
- **Selecting the SYNC MODE**
- **Selecting the SCREEN MODE**
- **Selecting the SAFE AREA DISPLAY**
- **Setting the SAVE AREA MODE**
- **Activating/deactivating the APERTURE adjustment**
- **Assigning the APERTURE VALUE**
- **Turning on/off the FILTER operation for monochrome display**
- **Assigning CHANNEL NAME**
- **Selecting the picture CONTROL settings**
- **Setting the COLOR TEMP (temperature)**
- **Adjusting H PHASE**
- **Assigning the number of active scanning lines of 1125/60I SYSTEM**
- **COPYing FROM other data**

**Note**

Data copy is impossible between monitors other than BVM-DxxE/DxxF series.

### Channels 91 to 99 assignment

The channel numbers from 91 to 99 are assigned to internal signals.

**091: PLUGE signal (Picture Line Up Generating Equipment)**
**092: 20% gray signal**
**093: 100% white signal**
**094: five-step gray scale signal**
**095: cross hatch signal**
**096: cross hatch signal**
**097: dot signal**
**098: cross hatch signal**
**099: 0% black signal**

### Assigning slot and connector numbers

Set which input connector on which slot will be assigned to the current channel. The slots are numbered from the left, as seen when facing the rear panel, with the REMOTE connectors slot being number 1, the input option slots numbers 2 to 5, and the analog input connectors slot being number 6. The connectors for each slot are numbered 1 to 6 (from the top).

### Assigning the signal type and format

The signal type and format which can be assigned to each channel number vary, depending on what adaptors (not supplied) are installed in the rear panel.

#### To assign serial digital signals

Serial digital signals can be assigned to the serial digital input connectors on the BKM-20D/21D/22X/41HD/42HD adaptors.

You need to install one of the BKM-20D (for component signals only), BKM-21D, BKM-41HD or BKM-42HD adaptors with a serial digital signal decoder to the rear panel of the monitor.

#### To assign analog composite signals

Analog composite signals can be assigned to any analog input connectors on the BKM-20D/21D/22X or any input connectors on the BKM-24N/25P/26M/27T/28X/48X.

You need to install one of the following decoder adaptors.

**To assign NTSC signals:** BKM-21D/24N/27T
**To assign PAL signals:** BKM-21D/25P/27T
**To assign PAL-M signals:** BKM-26M
**To assign SECAM signals:** BKM-27T

#### To assign Y/C signals

Y/C signals can be assigned to any input connectors on the BKM-24N/25P/26M/27T/28X/48X.

You need to install one of the following decoder adaptors.

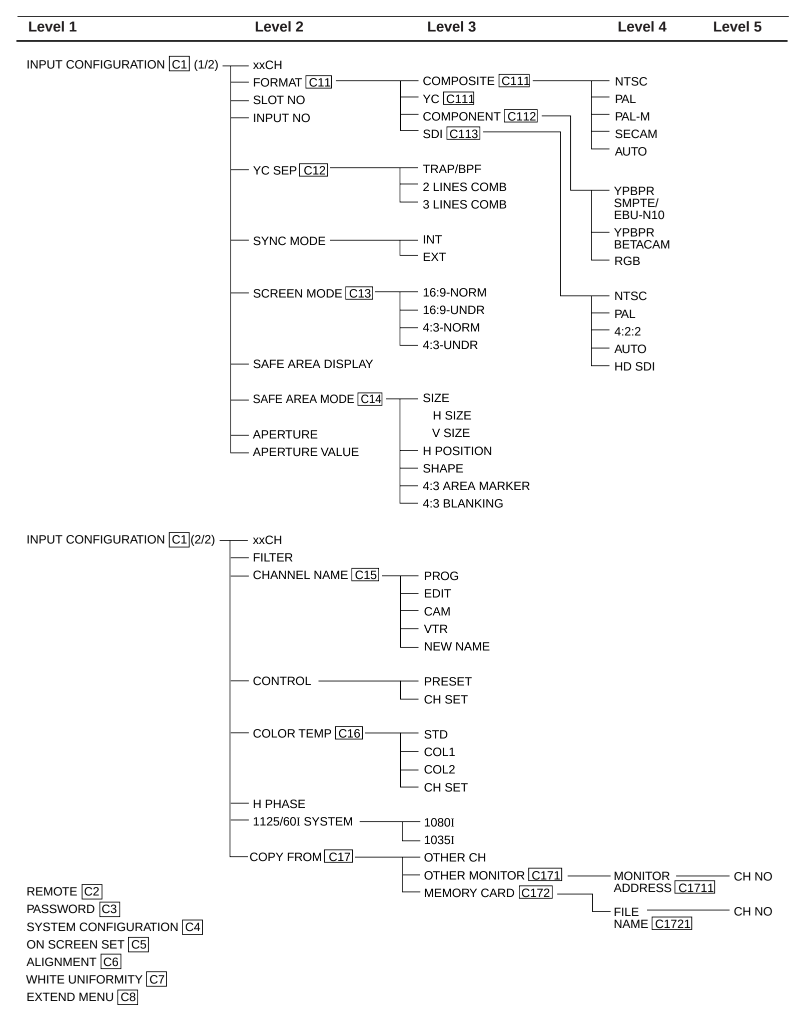
**To assign NTSC signals:** BKM-24N/27T
**To assign PAL signals:** BKM-25P/27T
**To assign PAL-M signals:** BKM-26M

#### To assign analog component or RGB signals

Analog component and RGB signals can be assigned to any input connectors except the serial digital signal input connectors on the BKM-20D/21D/22X/41HD/42HD.

# C1 Setting the Input Configuration (SET UP 1) — INPUT CONFIGURATION Menu

## Structure of the INPUT CONFIGURATION Menu


Level 1
Level 2
Level 3
Level 4
Level 5
INPUT CONFIGURATION C1 (1/2)
xxCH
FORMAT C11
COMPOSITE C111
YC C111
NTSC
PAL
PAL-M
SECAM
AUTO
COMPONENT C112
YPBPR SMPTE/EBU-N10
YPBPR BETACAM
RGB
SDI C113
NTSC
PAL
4:2:2
AUTO
HD SDI
SLOT NO
INPUT NO
YC SEP C12
TRAP/BPF
2 LINES COMB
3 LINES COMB
SYNC MODE
INT
EXT
SCREEN MODE C13
16:9-NORM
16:9-UNDR
4:3-NORM
4:3-UNDR
SAFE AREA DISPLAY
SAFE AREA MODE C14
SIZE
H SIZE
V SIZE
H POSITION
SHAPE
4:3 AREA MARKER
4:3 BLANKING
APERTURE
APERTURE VALUE
INPUT CONFIGURATION C1(2/2)
xxCH
FILTER
CHANNEL NAME C15
PROG
EDIT
CAM
VTR
NEW NAME
CONTROL
PRESET
CH SET
COLOR TEMP C16
STD
COL1
COL2
CH SET
H PHASE
1125/60I SYSTEM
1080I
1035I
COPY FROM C17
OTHER CH
OTHER MONITOR C171
MONITOR ADDRESS C1711
CH NO
MEMORY CARD C172
FILE NAME C1721
CH NO
REMOTE C2
PASSWORD C3
SYSTEM CONFIGURATION C4
ON SCREEN SET C5
ALIGNMENT C6
WHITE UNIFORMITY C7
EXTEND MENU C8

## Setting Lists in the INPUT CONFIGURATION Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see "About menu numbers" on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### C1 INPUT CONFIGURATION menu (1/2)

Set input signal data for each channel.

**xxCH:** Current channel is indicated. To change the channel, enter a channel number with the numeric keypad. The settings below will be stored as information about the signal to be connected to this channel.

**FORMAT... :** Select the input signal type. ⇨C11

**SLOT NO:** Enter the slot number.

**INPUT NO:** Enter the input connector number.

**YC SEP... :** Select Y/C separation filter. ⇨C12

**SYNC MODE:** Select the sync signal.
 **INT:** Use an internal sync signal.
 **EXT:** Use an external sync signal.

**SCREEN MODE... :** Select the scan size. ⇨C13

**SAFE AREA DISPLAY:** Choose whether or not to display the safe area (OFF or ON).

**MODE... :** Select the display mode for safe area. ⇨C14

**APERTURE:** Choose whether to use aperture adjustment or not (OFF or ON).

**APERTURE VALUE:** Enter the aperture adjustment value (0 to 200).

### C1 INPUT CONFIGURATION menu (2/2)

Set input signal data for each channel.

**xxCH:** Current channel is indicated. To change the channel, enter a channel number with the numeric keypad. The settings below will be stored as information about the signal to be connected to this channel.

**FILTER... :** Switch the filter operation (OFF or ON) when the monochrome display is selected.

**CHANNEL NAME... :** Give the channel a name. ⇨ C15

**CONTROL:** Use if either PRESET or CH SET values are used for the CONTRAST/BRIGHT/CHROMA/PHASE settings.
 **PRESET:** Use values common to all channels.
 **CH SET:** Use individual values for each channel.

**COLOR TEMP...:** Set the color temperature. ⇨ C16

**H PHASE:** Set the horizontal picture position (–128 to +127).

**1125/60I SYSTEM:** Select the number of active scanning lines per frame. When the HD SDI signal is input, the number of active scanning lines is selected automatically.
 **1080I:** The active scanning lines are 1080 lines
 **1035I:** The active scanning lines are 1035 lines.

**COPY FROM... :** Select a method for copying data from elsewhere. ⇨C17

**Note**

For H PHASE data, if a value above or below the allowable range is entered, the monitor will not operate correctly.

### C11 FORMAT menu

Select the signal format.

**COMPOSITE... :** Analog composite signal ⇨ C111

**YC... :** Analog Y/C signal ⇨ C111

**COMPONENT... :** Analog component or RGB signal ⇨ C112

**SDI... :** Serial digital signal ⇨ C113

**Note**

If there is no input connector or decoder corresponding to a format, that format will not be selectable (the cursor will skip over that item).

### C111 COMPOSITE menu/YC menu

Select the format of a composite or Y/C signal.

**NTSC:** SETUP 7.5 or 0.

**PAL:** S (simple) or D (delay)

**PAL-M:** S (simple) or D (delay)

**SECAM** (for the COMPOSITE menu only)

**AUTO:** The format of the input signal is detected and switched automatically. [1]

[1] It will take a few seconds to detect the format of an input signal when AUTO is selected. It is recommended that a particular format be selected if it is determined.

*(continued)*

## Setting the Input Configuration (SET UP 1) — INPUT CONFIGURATION Menu

**Notes**

- Even when selecting AUTO, also select NTSC (SETUP 7.5 or 0), PAL (S or D), and PAL-M (S or D).
- If there is no input connector or decoder corresponding to a format, that format will not be selectable (the cursor will skip over that entry).
- If you change the format of the channel to which the SDI signal is assigned to AUTO of the COMPOSITE menu with the BKM-21D installed, the image may not be displayed. In this case, change the signal format to NTSC or PAL once, then reset it to AUTO.
- If you change the format of the PAL-M Y/C signal to AUTO of the YC menu with the BKM-26M installed, the image may not be displayed. In this case, select PAL-M S or D.

### C112 COMPONENT menu

Select the component signal format, or RGB.
**YPBPR SMPTE/EBU-N10**
**YPBPR BETACAM:** SETUP 7.5 or 0.
**RGB**

### C113 SDI menu

Select the format of the serial digital signal [1].
**NTSC:** SETUP 7.5 or 0.
**PAL:** S (simple) or D (delay)
**4:2:2**
**AUTO:** The NTSC, PAL or 4:2:2 format of the input signal is detected and switched automatically. [1]

1) • It will take a few seconds to detect the format of an input signal when AUTO is selected. It is recommended that a particular format be selected if it is determined.
• If the serial digital signal is not properly displayed in SDI AUTO mode, re-enter the channel number.

**HD SDI**

### C12 YC SEP menu

Select a Y/C separation filter.
**TRAP/BPF:** Select TRAP/BPF filter.
**2 LINES COMB:** Select 2 LINES COMB filter.
**3 LINES COMB:** Select 3 LINES COMB filter.

### C13 SCREEN MODE menu

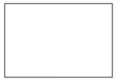
Select the scan size.
**16:9-NORM:** Overscanned 16:9 aspect ratio.
**16:9-UNDR:** Underscanned 16:9 aspect ratio.
**4:3-NORM:** Overscanned 4:3 aspect ratio.
**4:3-UNDR:** Underscanned 4:3 aspect ratio.

### C14 SAFE AREA MODE menu

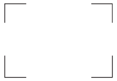
Set the safe area display modes.
**SIZE:** Select the safe area mode.
- **16:9-80%:** Displays a 80% safe area with 16:9 aspect ratio.
- **16:9-88%:** Displays a 88% safe area with 16:9 aspect ratio.
- **16:9-90%:** Displays a 90% safe area with 16:9 aspect ratio.
- **16:9-93%:** Displays a 93% safe area with 16:9 aspect ratio.
- **16:9-ANY SIZE:** Displays a safe area with 16:9 aspect ratio in the size determined by H SIZE and V SIZE.
- **4:3-80%:** Displays a 80% safe area with 4:3 aspect ratio.
- **4:3-88%:** Displays a 88% safe area with 4:3 aspect ratio.
- **4:3-90%:** Displays a 90% safe area with 4:3 aspect ratio.
- **4:3-ANY SIZE:** Displays a safe area with 4:3 aspect ratio in the size determined by H SIZE and V SIZE.

**H SIZE:** When 16:9-ANY SIZE or 4:3-ANY SIZE is selected, adjust the horizontal size of the safe area in 1% steps.
**V SIZE:** When16:9-ANY SIZE or 4:3-ANY SIZE is selected, adjust the vertical size of the safe area in 1% steps.
**H POSITION:** Adjust the horizontal display position of the safe area (–32 to +32).
**SHAPE:** Select the shape of the SAFE AREA MARKER.

**SHAPE A:**



**SHAPE B:**

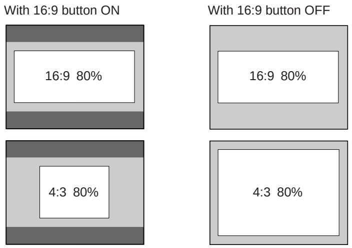


**4:3 AREA MARKER**: Select whether the 4:3 line is displayed in16:9 screen or not (ON or OFF).
**4:3 BLANKING**: Select the blanking outside the 4:3 area.
- **HALF:** Half blanking
- **BLACK:** Blanks outside the 4:3 area.
- **OFF:** Do not blank.

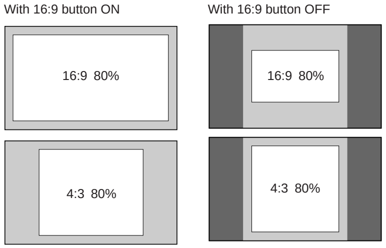
**Note**

The size of the safe area for the 16:9-xx% or 4:3-xx% setting depends on the 16:9 button ON/OFF setting.

**BVM-D20F1U/D20F1E/D20F1A**



**BVM-D24E1WU/D24E1WE/D24E1WA**



### C15 CHANNEL NAME menu

Give the channel a name. Select a preset name, or enter a new one.
**PROG:** Program signal
**EDIT:** Signal from an editor
**CAM:** Camera signal
**VTR:** Signal from a VTR
**NEW NAME:** Enter a new name. (Up to 20 characters can be entered and up to six characters from the head of the name are displayed in the INPUT CONFIGURATION menu (C1 2/2).)

### C16 COLOR TEMP menu

Select STD, COL1, COL2 or CH SET.
**STD:** Use common data (factory setting: D65).
**COL1:** Use common data (factory setting: D93).
**COL2:** Use common data (factory setting: D65).
**CH SET:** Use data for each individual channel (factory setting: D65).

### C17 COPY FROM menu

Select the source to be copied from.
**OTHER CH:** Copy data from another channel. Enter the channel number.
**OTHER MONITOR... :** Copy data from a BVM-DxxE/DxxF series monitor. ⇨C171
**MEMORY CARD... :** Copy data from a memory card. ⇨C172

### C171 OTHER MONITOR menu

Enter the address number of the source monitor.
**MONITOR ADDRESS:** Enter the address number of the monitor from which to copy data. ⇨C1711

### C1711 MONITOR ADDRESS menu

Assign the channel of the selected monitor from which to copy data. ⇨ Copy is carried out.
**CH NO:** Enter the channel number.

### C172 MEMORY CARD menu

Select the file name.
**FILE NAME:** Select the file name. ⇨C1721

### C1721 FILE NAME menu

Assign the channel of the selected file from which to copy data. ⇨ Copy is carried out.
**CH NO:** Enter the channel number.

# C2 Assigning the Remote Control Functions (SET UP 2) — REMOTE Menu

## Overview

The remote control functions are set with the REMOTE menu. With this monitor, both serial remote control (REMOTE 1) and parallel remote control (REMOTE 2) are possible.
The following settings can be made with the REMOTE menu.

- **Settings for the serial remote control (REMOTE 1) (REMOTE 1 CONFIG menu)**
  An address number (MONITOR ADDRESS) and group number (GROUP ADDRESS) can be assigned to the monitor connected to the serial REMOTE 1 connector.
  The BVM-xxE/F/G, BVM-Dxx and HDM-xxE series monitors can be connected.
- **Settings for the parallel remote control (REMOTE 2) (REMOTE 2 CONFIG menu)**
  Functions can be assigned to the pins of the REMOTE 2 connector.
- **ON/OFF setting for the parallel remote control (REMOTE 2) (REMOTE 2 menu)**

### Priority order of the remote control functions

It is possible to simultaneously use the BKM-10R/11R Monitor Control Unit, REMOTE 1, and REMOTE 2 for control, but commands from REMOTE 2 have priority. Therefore, it is impossible for the BKM-10R/11R or REMOTE 1 to change items set by REMOTE 2. There is no priority order between commands from REMOTE 1 and the BKM-10R/11R control panel.

### About monitor address and group numbers

The BKM-10R/11R Monitor Control Units are able to control up to 32 monitors connected via serial remote connector (using the REMOTE 1 connector). By giving each monitor a monitor address and group number, it is possible to control just a specific monitor or monitor group.
With the REMOTE 1 CONFIG menu, each monitor can be set with a monitor address and group number, between 1 and 99.
The ADDRESS menu is used to select a particular monitor or group by entering a monitor number or group number.

*For information about the ADDRESS menu, see “Selecting the Monitor to Control — ADDRESS Menu” on page 59.*

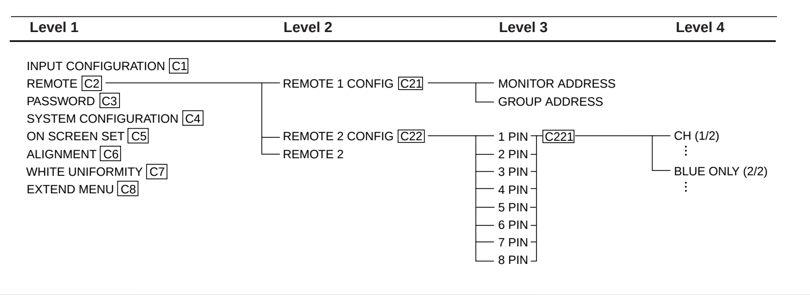
**Note**

The address number must differ from one monitor to another. If two or more monitors have the same address number, an operation error occurs.

**In the case of temporary freezing controls during serial remote control.**

When buttons such as UP/DOWN and ENTER are repeatedly pushed (in quick succession), the buttons may stop functioning.
In the case, turning the CHROMA or PHASE knobs will restore function.

## Structure of the REMOTE Menu



## Setting Lists of the REMOTE Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see “About menu numbers” on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### C2 REMOTE menu

Select the type of remote control.

**REMOTE 1 CONFIG... :** Set the address and group number of the monitor controlled via the REMOTE 1 (serial remote control) connector. ⇨C21

**REMOTE 2 CONFIG... :** Set the pin assignments for the REMOTE 2 (parallel remote control) connector. ⇨C22

**REMOTE 2:** Select whether parallel remote control will be used or not (ON or OFF).

### C21 REMOTE 1 CONFIG menu

Set the monitor address and group number.

**MONITOR ADDRESS:** Enter an address number.

**GROUP ADDRESS:** Enter a group number.

### C22 REMOTE 2 CONFIG menu

Select the REMOTE 2 connector pins for which you want to change the function. The factory settings for each pin are given below. ⇨C221

**1 PIN:** CH01
**2 PIN:** CH02
**3 PIN:** EXT SYNC
**4 PIN:** MONO
**5 PIN:** SAFE AREA
**6 PIN:** unused
**7 PIN:** unused
**8 PIN:** TALLY

### C221 1-8 PIN menu (1/2)

Assign a function to the selected pin.

**CH:** Select a channel number. Enter the desired channel number with the numeric keypad.
**----:** Set to unused.
**UNDER SCAN:** Set underscan on or off.
**16:9:** Set a 16:9 aspect ratio on or off.
**H DELAY:** Set the horizontal sync display on or off.
**V DELAY:** Set the vertical sync display on or off.
**EXT SYNC:** Set the synchronization to external sync signals enabled or disabled.
**COMB:** Set the comb filter on or off.
**APERTURE:** Set the correction of frequency characteristics enabled or disabled.
**MONO:** Set monochrome display on or off.

### C221 1-8 PIN menu (2/2)

Assign a function to the selected pin.

**BLUE ONLY:** Set the blue signal pictures display (monochrome) on or off.
**R OFF:** Set cutting red beams enabled or disabled.
**G OFF:** Set cutting green beams enabled or disabled.
**B OFF:** Set cutting blue beams enabled or disabled.
**SAFE AREA ON:** Set the safe area display on or off.
**CAPTION VISION:** Set Caption Vision on or off.
**TALLY ON:** Set tally signals on or off.
**DEGAUSS ON:** Set degaussing on or off.
**POWER OFF:** Set the monitor power on or off.

*For the pin assignment, see “REMOTE 2 connector” in the Location and Function of Parts on page 14.*

# C3 Setting the Password (SET UP 3) — PASSWORD Menu

## Overview

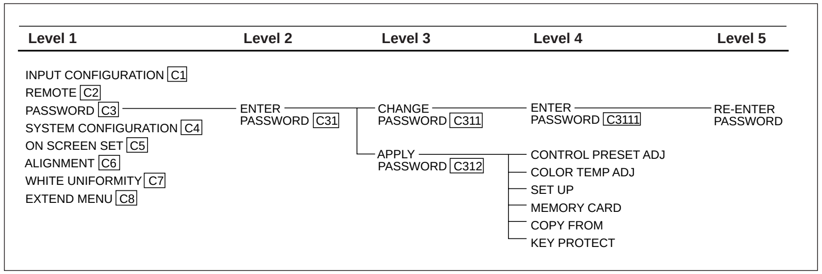
A four-digit password can be specified and applied to desired menu options to prohibit the menu settings from being changed without permission.
With the PASSWORD menu, you can change the password (CHANGE PASSWORD menu) and apply the password to a desired menu item (APPLY PASSWORD menu). A password is always assigned to the PASSWORD menu (factory setting: 9999).

### Use of the password

The message “ENTER PASSWORD” is displayed when an attempt is made to select a menu item for which the password has been applied. Then, enter the password using the numeric keypad.

**If the password is not entered correctly**
If an incorrect password is entered, the display returns to the menu of the previous level.

## Structure of the PASSWORD Menu


Level 1
Level 2
Level 3
Level 4
Level 5
INPUT CONFIGURATION C1
REMOTE C2
PASSWORD C3
SYSTEM CONFIGURATION C4
ON SCREEN SET C5
ALIGNMENT C6
WHITE UNIFORMITY C7
EXTEND MENU C8
ENTER PASSWORD C31
CHANGE PASSWORD C311
APPLY PASSWORD C312
ENTER PASSWORD C3111
RE-ENTER PASSWORD
CONTROL PRESET ADJ
COLOR TEMP ADJ
SET UP
MEMORY CARD
COPY FROM
KEY PROTECT

## Setting Lists of the PASSWORD Menu

This section explains the setting lists displayed in the menu.

**How to read the setting lists**

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see “About menu numbers” on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### C3 PASSWORD menu

Enter the password for the PASSWORD menu.
**ENTER PASSWORD:** Enter the password (factory setting: 9999). ⇨C31

### C31 ENTER PASSWORD menu

Choose what action to perform with the password.
**CHANGE PASSWORD... :** Change the password. ⇨C311
**APPLY PASSWORD... :** Assign the password to a menu item. ⇨C312

### C311 CHANGE PASSWORD menu

Change the password.
**ENTER PASSWORD... :** Enter a new password. ⇨C3111

### C3111 ENTER PASSWORD menu

Create a new password.
**RE-ENTER PASSWORD**
Enter the new password again and press the ENTER button. ⇨ The password is registered. To change it, press the MENU button. ⇨ Return to C31.

### C312 APPLY PASSWORD menu

Choose whether or not to apply the password to each menu.
**CONTROL PRESET ADJ:** Select YES or NO.
**COLOR TEMP ADJ:** Select YES or NO.
**SET UP:** Select YES or NO.
**MEMORY CARD:** Select YES or NO.
**COPY FROM:** Select YES or NO.
**KEY PROTECT:** Select YES or NO.

# C4 Setting the Channel Selection Method, Power-Up Conditions and Decoder (SET UP 4) — SYSTEM CONFIGURATION Menu

## Overview

The SYSTEM CONFIGURATION menu is used for the following settings:

- **Channel number entry method (INPUT SELECT menu)**
  This menu sets the way in which the numeric keypad can be used to enter channel numbers.
- **Power-up condition (STANDBY MODE menu)**
  This menu sets the condition of the monitor when the MAIN POWER switch on the rear panel is switched on.
- **Power-up input channel (DEFAULT CH menu)**
  This menu sets the power-up input channel.
- **Time from power-up until degauss (DEGAUSS DELAY menu)**
  If several monitors are turned on at the same time and all start degaussing at the same time, there will be a very large current draw on the power supply for a few moments. To prevent this, the delay time between power-up and degaussing can be set for each monitor independently.
- **Residual subcarrier detection (RESIDUAL SC SW menu)** (when using the BKM-24N/25P)
  It is possible to detect residual subcarrier signals from phase change by setting the decoder adpator's residual subcarrier switch on.
- **Auto color control (ACC SW menu)** (when using the BKM-27T)
  Selects if the ACC (Auto Color Control) circuit is activated or deactivated.
- **Setting of the contrast and brightness after adjusting the white balance (CONT/BRT HOLD menu)**
  Selects if the adjusted contrast and brightness are retained or they are reset to the center values.
- **Assigning shortcut to the COLOR TEMP ADJ menu to the F2 key (COL TEMP SHORT-CUT menu)**
  Assigns the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu to the F2 key. This allows you to jump directly to the MANUAL menu corresponding to the color temperature set to the currently displayed image (STD/COL 1/COL 2/CH SET).

## Structure of the SYSTEM CONFIGURATION Menu

| Level 1 | Level 2 |
|---|---|
| INPUT CONFIGURATION C1 | |
| REMOTE C2 | |
| PASSWORD C3 | |
| SYSTEM CONFIGURATION C4 | INPUT SELECT<br>STANDBY MODE<br>DEFAULT CH<br>DEGAUSS DELAY<br>RESIDUAL SC SW<br>ACC SW<br>CONT/BRT HOLD<br>COL TEMP SHORT-CUT |
| ON SCREEN SET C5 | |
| ALIGNMENT C6 | |
| WHITE UNIFORMITY C7 | |
| EXTEND MENU C8 | |

## Setting Lists of the SYSTEM CONFIGURATION Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see "About menu numbers" on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### C4 SYSTEM CONFIGURATION menu

Set each of the following items.

**INPUT SELECT:** Select the channel number selection method (DIRECT or 10KEY).
(In the explanation below, x and y represent any digit between 0 and 9.)
**DIRECT mode:** When selecting a number from 1 to 9, press the x button to display channel x. When selecting a number from 10 to 99, press the 0, x, and y buttons to display channel xy (a two-digit channel number). This mode is selected at the shipping.
**10KEY mode:** When the x button is pressed followed by the ENTER or Ent button, the monitor displays channel x. When the x buttons is pressed, followed by the y and ENTER (Ent) buttons, the monitor displays channel xy (a two-digit channel number).
When multiple monitors are connected by a serial remote connection, this setting will be common to all the monitors. It is not possible to change the setting for individual monitors.

**STANDBY MODE:** Select the power-up condition when the MAIN POWER switch is turned on (OFF or ON).
**ON**: Standby mode
**OFF**: Operation mode

**DEFAULT CH:** Select the power-up input channel (LAST or CH xx).
**LAST**: Set the channel to the channel that was selected at the time the power was last turned off.
**CH xx**: Set the channel to a specific channel number.

**DEGAUSS DELAY:** Set the time between power-up and the beginning of degaussing. Enter the desired time (in seconds).

**RESIDUAL SC SW:** Set the residual switch (OFF or ON).

**ACC SW:** Set the ACC switch (OFF or ON).

**CONT/BRT HOLD:** Select the contrast and brightness settings to the center or adjusted value after adjusting the white balance or auto adjustment of CONTROL PRESET ADJ (OFF or ON).
**ON**: The contrast and brightness are set to the value before adjusting.
**OFF**: The contrast and brightness are set to the center value (1000) after adjusting.

**COL TEMP SHORT-CUT:** Assign the shortcut function to the MANUAL menu of the COLOR TEMP ADJ menu to F2 key (OFF or ON).
**ON**: Assigns the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu.
**OFF**: Does not assign the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu.

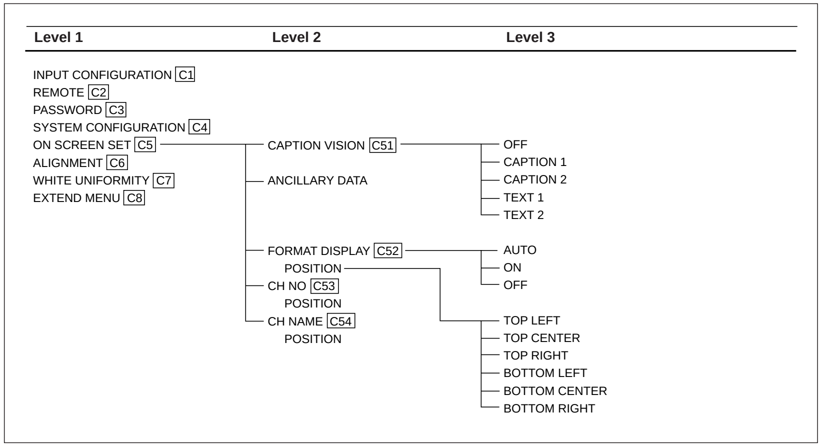
# C5 Setting the Screen Display (SET UP 5) — ON SCREEN SET Menu

## Overview

The ON SCREEN SET menu is used to select the type of information that will be displayed on the screen and how that information will be displayed.
The types of information that can be set are as follows:

- **Caption vision (CAPTION VISION menu)**
- **SDI signal ancillary data blanking (ANCILLARY DATA menu)** (when the SDI signal is displayed)
- **Display mode and position of the signal format (FORMAT DISPLAY and POSITION menus)**
- **Display mode and position of the channel number (CH NO and POSITION menus)**
- **Display mode and position of the channel name (CH NAME and POSITION menus)**

## Structure of the ON SCREEN SET Menu


Level 1
Level 2
Level 3
INPUT CONFIGURATION C1
REMOTE C2
PASSWORD C3
SYSTEM CONFIGURATION C4
ON SCREEN SET C5
ALIGNMENT C6
WHITE UNIFORMITY C7
EXTEND MENU C8
CAPTION VISION C51
ANCILLARY DATA
FORMAT DISPLAY C52
POSITION
CH NO C53
POSITION
CH NAME C54
POSITION
OFF
CAPTION 1
CAPTION 2
TEXT 1
TEXT 2
AUTO
ON
OFF
TOP LEFT
TOP CENTER
TOP RIGHT
BOTTOM LEFT
BOTTOM CENTER
BOTTOM RIGHT

## Setting Lists of the ON SCREEN SET Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see "About menu numbers" on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### C5 ON SCREEN SET menu

Select items to be displayed on the screen.

**CAPTION VISION... :** Select the caption display mode. ⇨C51

**ANCILLARY DATA:** Select whether or not to display the ancillary data in the serial digital signal (OFF or ON).

**FORMAT DISPLAY:** Select the display mode of the signal format. ⇨C52

**FORMAT DISPLAY POSITION:** Select the display position for the signal format. ⇨C52

**CH NO :** Select the display mode of the channel number. ⇨C53

**CH NO POSITION :** Select the display position for the channel number. ⇨C53

**CH NAME :** Select the display mode of the channel name. ⇨C54

**CH NAME POSITION :** Select the display position for the channel name. ⇨C54

### C51 CAPTION VISION menu

Select the caption display mode.

**OFF:** Not displayed

**CAPTION 1:** Displayed in CAPTION 1 mode.

**CAPTION 2:** Displayed in CAPTION 2 mode.

**TEXT 1:** Displayed in TEXT 1 mode.

**TEXT 2:** Displayed in TEXT 2 mode.

### C52 FORMAT DISPLAY and POSITION menus

**FORMAT DISPLAY menu**

Select the display mode of the signal format.

**AUTO:** Disappears after displayed for a while.

**ON:** Displayed.

**OFF:** Not displayed.

One of the following signal formats is displayed on the screen.
1035/60I, 1080/60I, 1080/50I, 1080/48I, 480/60P, 480/60I, 575/50P, 575/50I, 720/60P, NO SYNC

**POSITION menu**

Select the display position.

**TOP LEFT, TOP CENTER, TOP RIGHT, BOTTOM LEFT** (factory setting), **BOTTOM CENTER, BOTTOM RIGHT**

### C53 CH NO and POSITION menus

**CH NO menu**

Select the display mode of the channel number.

**AUTO:** Disappears after displayed for a while.

**ON:** Displayed

**OFF:** Not displayed.

**POSITION menu**

Select the display position.

**TOP LEFT, TOP CENTER, TOP RIGHT** (factory setting), **BOTTOM LEFT, BOTTOM CENTER, BOTTOM RIGHT**

### C54 CH NAME and POSITION menus

**CH NAME menu**

Select the display mode of the channel number.

**AUTO:** Disappears after displayed for a while.

**ON:** Displayed

**OFF:** Not displayed.

**POSITION menu**

Select the display position.

**TOP LEFT** (factory setting), **TOP CENTER, TOP RIGHT, BOTTOM LEFT, BOTTOM CENTER, BOTTOM RIGHT**

# C6 Adjusting Geometry and Convergence (SET UP 6) — ALIGNMENT Menu

## Overview

The ALIGNMENT menu is used for adjusting geometry and convergence.

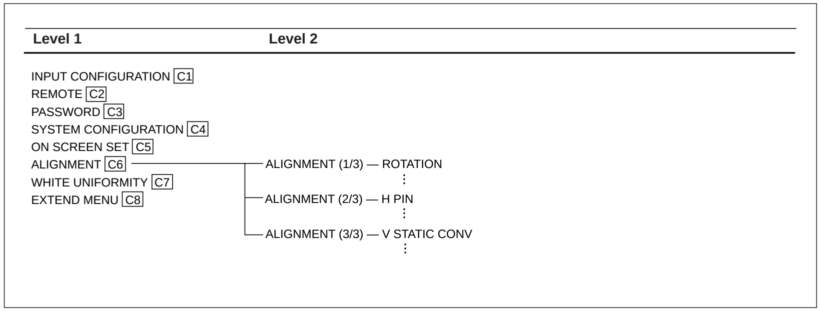
**Note**

Adjust the beam landing (C8) after the geometry and convergence adjustments have been completed.

The following adjustments can be performed with the three pages of the ALIGNMENT menu.

- **Adjusting the position and size of the picture (ALIGNMENT menu (1/3))**
- **Adjusting the geometry of the picture (ALIGNMENT menu (2/3))**
- **Adjusting the convergence (ALIGNMENT menu (3/3))**

## Structure of the ALIGNMENT Menu



## Setting Lists of the ALIGNMENT Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.

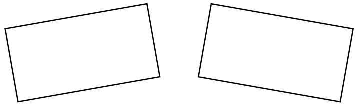
*For more information about the menu number, see “About menu numbers” on page 23.*

- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

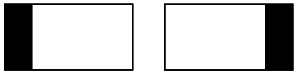
### C6 ALIGNMENT menu (1/3)

Adjust the position or size of the picture with the UP and DOWN buttons or PHASE knob.

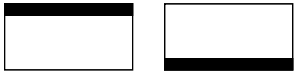
**ROTATION:** Compensates for the screen rotation which occurs when the monitor is installed facing north or south.



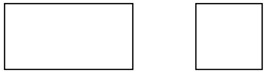
**H PHASE:** Adjust the horizontal picture position.



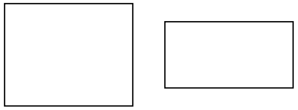
**V CENTER:** Adjust the vertical picture position.



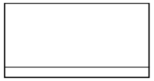
**H SIZE:** Adjust the width of the picture.



**V SIZE:** Adjust the height of the picture.



**VITS BLK:** Adjust vertical blanking so that VITS signals are not visible in the upper part of the screen.

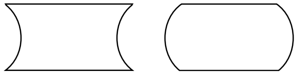


**SUB CONTRAST:** Adjust the center value of the contrast when the image size or signal format is changed.

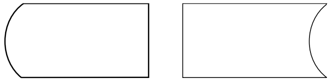
### C6 ALIGNMENT menu (2/3)

Adjust the geometry of the picture with the UP and DOWN buttons or PHASE knob.

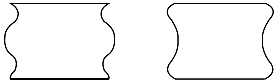
**H PIN:** Correct side pincushion distortion.



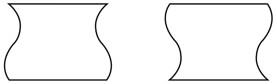
**H PIN BAL:** Correct the balance of side pincushion distortion.



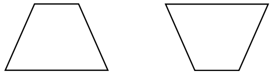
**H CORNER PIN:** Correct pincushion distortion at the sides of the picture.



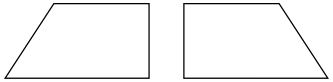
**H CORNER S:** Correct S pincushion distortion at the sides of the picture.



**H KEY:** Correct trapezoid distortion.



**H KEY BAL:** Correct the balance of trapezoid distortion.



### C6 ALIGNMENT menu (3/3)

Adjust the convergence with the UP and DOWN buttons or PHASE knob.

**V STATIC CONV:** Adjust vertical static convergence on the whole screen.

**V CONV TOP:** Adjust vertical convergence at the top of the screen.

**V CONV BOT:** Adjust vertical convergence at the bottom of the screen.

**H STATIC CONV:** Adjust horizontal static convergence on the whole screen.

http://getMANUAL.com

# C7 Adjusting Beam Landing and Digital Uniformity (SET UP 7) — WHITE UNIFORMITY Menu (BVM-D24E1WU/D24E1WE/D24E1WA only)

## Overview

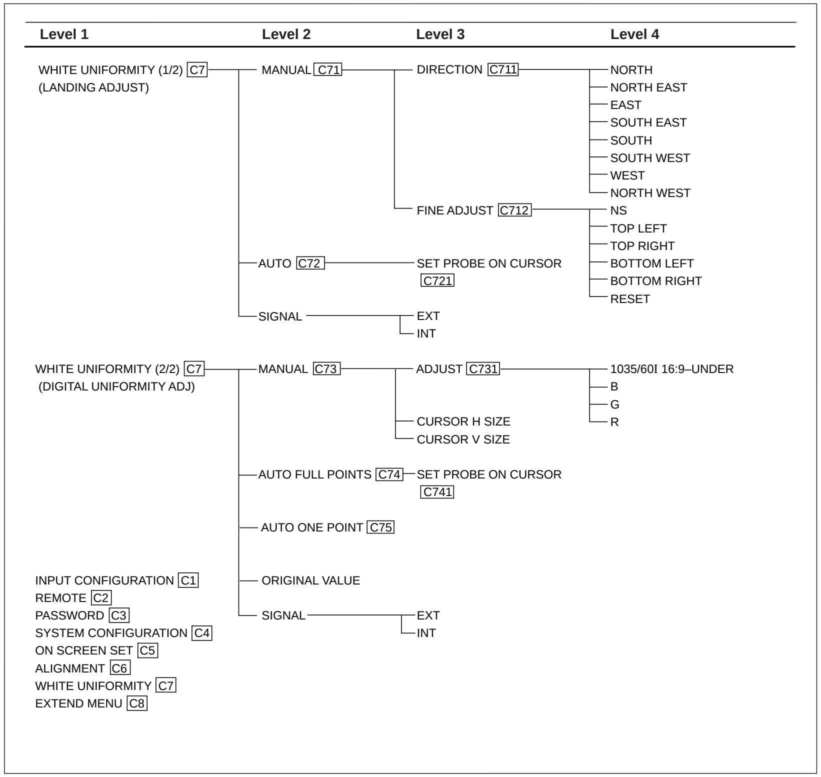
The following two adjustments can be performed using the WHITE UNIFORMITY menu, by making the white in the picture as uniform as possible.

- **Correcting the shift of beam landing caused by the earth's magnetism (LANDING ADJUST menu)**
- **Adjusting the color unevenness of the CRT (DIGITAL UNIFORMITY menu)**

**Note**

Perform the digital uniformity adjustment after the beam landing adjustment has been completed.

## Structure of the WHITE UNIFORMITY Menu


Level 1
Level 2
Level 3
Level 4
WHITE UNIFORMITY (1/2) C7
(LANDING ADJUST)
MANUAL C71
DIRECTION C711
NORTH
NORTH EAST
EAST
SOUTH EAST
SOUTH
SOUTH WEST
WEST
NORTH WEST
FINE ADJUST C712
NS
TOP LEFT
TOP RIGHT
BOTTOM LEFT
BOTTOM RIGHT
RESET
AUTO C72
SET PROBE ON CURSOR C721
SIGNAL
EXT
INT
WHITE UNIFORMITY (2/2) C7
(DIGITAL UNIFORMITY ADJ)
MANUAL C73
ADJUST C731
1035/60I 16:9–UNDER
B
G
R
CURSOR H SIZE
CURSOR V SIZE
AUTO FULL POINTS C74
SET PROBE ON CURSOR C741
AUTO ONE POINT C75
ORIGINAL VALUE
SIGNAL
EXT
INT
INPUT CONFIGURATION C1
REMOTE C2
PASSWORD C3
SYSTEM CONFIGURATION C4
ON SCREEN SET C5
ALIGNMENT C6
WHITE UNIFORMITY C7
EXTEND MENU C8

## Setting Lists of the WHITE UNIFORMITY Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see "About menu numbers" on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### C7 WHITE UNIFORMITY menu (1/2)

Adjust the shift of beam landing which occurs due to the earth's magnetism (**LANDING ADJUST menu**). Select the method of adjustment in this menu.

**MANUAL... :** Adjust with the MANUAL knobs. ⇨C71

**AUTO... :** Automatically adjust using the Sony BKM-14L Auto Setup Probe. ⇨C72

**SIGNAL:** Select the white signal to be used for adjustment.

**EXT:** Use an external input signal. When adjusting the gain, input the appropriate signal.

**INT:** Use an internal white signal.

### C7 WHITE UNIFORMITY menu (2/2)

Adjust the color unevenness of the CRT (**DIGITAL UNIFORMITY ADJ menu**). Select the method of adjustment in this menu.

**MANUAL... :** Adjust with the MANUAL knobs. ⇨C73

**AUTO FULL POINTS... :** Automatically adjust the whole area of the screen in sequence using the Sony BKM-14L Auto Setup Probe. ⇨C74

**AUTO ONE POINT... :** Automatically adjust the selected adjustment point of the screen only using the Sony BKM-14L Auto Setup Probe. ⇨C75

**ORIGINAL VALUE:** Set the initial value. Select the signal format from 1035/60I, 1080/60I, 1080/50I, 1080/48I, 480/60P, 480/60I, 575/50P, 570/50I and 720/60P, and the screen size from 16:9-NORM, 16:9-UNDR, 4:3-NORM and 4:3-UNDR.

**Note**

4:3-NORM and 4:3-UNDR can be combined with 480/60P, 480/60I, 575/50P and 570/50I only.

**SIGNAL:** Select the white signal to be used for adjustment.

**EXT:** Use an external input signal. When adjusting the gain, input the appropriate signal.

**INT:** Use an internal white signal.

### C71 MANUAL menu

Select the rough or fine adjustment of beam landing. First perform the rough adjustment, then proceed to the fine adjustment.

**DIRECTION :** Adjust the beam landing shift approximately by selecting the direction in which the monitor is facing.⇨C711

**FINE ADJUST :** Adjust the beam landing shift finely at each adjustment point on the screen. ⇨C712

### C711 DIRECTION menu

Display the white signal and select the direction using the UP/DOWN buttons or PHASE knob where the white is most uniform on the screen.

**NORTH, NORTH EAST, EAST, SOUTH EAST, SOUTH, SOUTH WEST, WEST** or **NORTH WEST**

### C712 FINE ADJUST menu

Display the white signal, select the adjustment point on the screen, and adjust the white at the selected point as uniformly as possible using the UP/DOWN buttons or PHASE knob.

**NS:** Correct the beam landing shift at the top center and bottom center of the screen simultaneously.

**TOP LEFT:** Correct the beam landing shift at the top left of the screen.

**TOP RIGHT:** Correct the beam landing shift at the top right of the screen.

**BOTTOM LEFT:** Correct the beam landing shift at the bottom left of the screen.

**BOTTOM RIGHT:** Correct the beam landing shift at the bottom right of the screen.

**RESET:** Reset the beam landing data at all the five points above to the center simultaneously.

**When you want to erase characters from the screen while adjusting manually**

Press the F1 button. The characters disappear. To display characters, press the F1 button again.

### C72 AUTO menu

Before entering the AUTO menu, connect the BKM-14L to the OPTION connector.

The following message appears.⇨C721

**SET PROBE ON CURSOR**

## C7 Adjusting Beam Landing and Digital Uniformity (SET UP 7) — WHITE UNIFORMITY Menu

### C721 SET PROBE ON CURSOR

To perform adjustment, operate the BKM-14L as follows:

(1) Place the BKM-14L to the cursor displayed on the bottom left of the screen. ⇨ The adjustment starts. "IN PROGRESS" appears during adjustment, and the cursor is displayed at the next adjustment point when the adjustment is completed.

(2) Move the BKM-14L to the cursor. ⇨ The next adjustment is performed.

In the same way, adjust each adjustment point guided by the cursor. When the adjustment of all the points is completed, the screen automatically returns to the WHITE UNIFORMITY menu (1/2) (C7).

**To cancel the adjustment**

Press the MENU button. The adjusted data is cleared and the screen returns to the WHITE UNIFORMITY menu (1/2) (C7).

**If the BKM-14L is not placed to the cursor**

The following message appears, and the cursor moves to the right and left alternately on the screen.

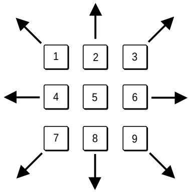
**DO YOU WISH TO ABORT?**
**LEFT CURSOR: ABORT**
**RIGHT CURSOR: CONTINUE**

To abort, place the BKM-14L to the cursor when it is displayed on the left. ⇨ Returns to C7.
To continue, place the BKM-14L to the cursor when it is displayed on the right. ⇨ Returns to C721.

### C73 MANUAL menu

Adjust the gain of R, G and B with the MANUAL knobs.
The signal format and screen size for the adjustment are displayed on the top of the screen.

**ADJUST... :** Adjust the gain. ⇨C731 (It may take some time to change to the next menu.)
Use appropriate knobs and buttons in each adjustment as described below.
- **RED: CONTRAST KNOB**: Adjust the R gain with the CONTRAST knob.
- **GREEN: BRIGHT KNOB:** Adjust the G gain with the BRIGHT knob.
- **BLUE: CHROMA KNOB:** Adjust the B gain with the CHROMA knob.
- **CURSOR POSITION: 10KEY:** Move the cursor using the numeric keypad (except the 5 button) as illustrated below. Turn on/off the cursor using the 5 button.



The cursor moves in the direction of the arrow corresponding to the pressed button.

**CURSOR H SIZE:** Specify the horizontal size of the cursor (1 to 4).
**CURSOR V SIZE:** Specify the vertical size of the cursor (1 to 4).

### C731 ADJUST menu

Adjust the gain at the cursor position using the CONTRAST (RED), BRIGHT (GREEN) and CHROMA (BLUE) knobs. Move the cursor using the numeric keypad.

**To reset RED/GREEN/BLUE to the value before adjustment**

When you are adjusting the gain using the MANUAL adjustment knobs, you can reset the setting to the one before adjustment by pressing the corresponding MANUAL button.

**To cancel the adjustment**

Press the MENU button. The adjusted data is cleared and the screen returns to C73. (It may take some time to change to the previous menu.)

**When you want to erase characters from the screen while adjusting manually**

Press the F1 button. The characters disappear. To display characters, press the F1 button again.

### C74 AUTO FULL POINTS menu

Before entering the AUTO FULL POINTS menu, connect the BKM-14L to the OPTION connector.
The following message appears.⇨C741 (It may take some time to change to the next menu.)

**SET PROBE ON CURSOR**

### C741 SET PROBE ON CURSOR

To perform adjustment, operate the BKM-14L as follows:

(1) Place the BKM-14L to the cursor displayed in the center of the screen. ⇨ The adjustment starts. When the adjustment is completed, the cursor is displayed at the next adjustment point.

(2) Move the BKM-14L to the cursor. ⇨ The next adjustment is performed.

In the same way, adjust each adjustment point guided by the cursor. When the adjustment of all the points is completed, the screen automatically returns to the WHITE UNIFORMITY menu (2/2) (C7).

**To cancel the adjustment**

Press the MENU button. The adjusted data is cleared and the screen returns to the WHITE UNIFORMITY menu (2/2) (C7). (It may take some time to change to the previous menu.)

**If the BKM-14L is not placed to the cursor**

The following message appears, and the cursor moves to the right and left alternately on the screen.

**DO YOU WISH TO ABORT?**
**LEFT CURSOR: ABORT**
**RIGHT CURSOR: CONTINUE**

To abort, place the BKM-14L to the cursor when it is displayed on the left. ⇨ Returns to C7.
To continue, place the BKM-14L to the cursor when it is displayed on the right. ⇨ Returns to C741.

### C75 AUTO ONE POINT menu

Before entering the AUTO ONE POINT menu, connect the BKM-14L to the OPTION connector.
The cursor flashes in the center of the screen.
Use appropriate buttons as described below.
- **CURSOR POSITION: 10KEY:** Move the cursor using the numeric keypad (except the 5 button). Turn on/off the cursor using the 5 button.
- **TO CANCEL: MENU KEY:** Press the MENU button to clear the adjusted data and return to the previous menu.
- **TO CONFIRM: ENTER KEY:** Press the ENTER or Ent button to confirm the adjusted data.

To perform adjustment, operate the BKM-14L as follows:

(1) Move the cursor to the desired point using the numeric keypad (except the 5 button), and press the ENTER or Ent button. ⇨ The following message appears and the cursor returns to the center.

**SET PROBE ON CURSOR**

**Note**

If you press the ENTER or Ent button without moving the cursor, the screen returns to the WHITE UNIFORMITY menu (2/2) (C7).

(2) Place the BKM-14L to the cursor displayed in the center of the screen. ⇨ The adjustment of the center of the screen starts. "IN PROGRESS" appears during adjustment, and the cursor returns to the point set in step (1) when the adjustment is completed.

(3) Move the BKM-14L to the cursor. ⇨ The adjustment of the specified point is performed. "IN PROGRESS" appears during adjustment, and the cursor flashes when the adjustment of that point is completed.

**To adjust another point of the screen**

Move the cursor to the desired point using the numeric keypad (except the 5 button), and press the ENTER or Ent button. Then place the BKM-14L to the cursor to perform the adjustment. Repeat this procedure for each adjustment point.

**To finish the adjustment**

When the adjustment of the specified points is completed, press the ENTER or Ent button without operating the numeric keypad. The adjusted data is stored in the memory and the screen returns to the WHITE UNIFORMITY menu (2/2) (C7). (It may take some time to change to the previous menu.)

**Note**

Operating the numeric keypad before pressing the ENTER or Ent button starts the adjustment.

**To cancel the adjustment**

Press the MENU button. The adjusted data is cleared and the screen returns to the WHITE UNIFORMITY menu (2/2) (C7). (It may take some time to change to the previous menu.)

**If the BKM-14L is not placed to the cursor**

The following message appears, and the cursor moves to the right and left alternately on the screen.

**DO YOU WISH TO ABORT?**
**LEFT CURSOR: ABORT**
**RIGHT CURSOR: CONTINUE**

To abort, place the BKM-14L to the cursor when it is displayed on the left. ⇨ Returns to C7.
To continue, place the BKM-14L to the cursor when it is displayed on the right. ⇨ Returns to C75.

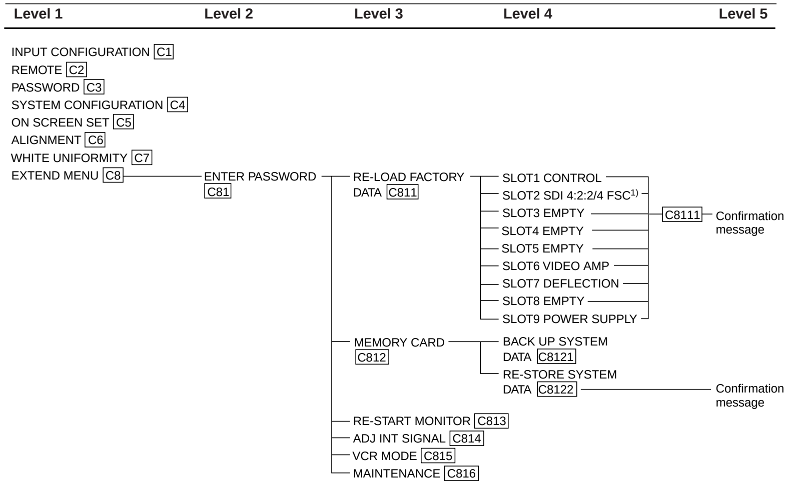
# C8 Using Extended Functions (SET UP 8) — EXTEND Menu

## Overview

The following six functions can be executed with the EXTEND menu.

- **Loading factory default data for installed boards into memory (RE-LOAD FACTORY DATA menu)**
- **Writing monitor setting and adjustment data to the monitor memory card, or read setting and adjustment data from the monitor memory card (MEMORY CARD menu)**
- **Restarting the monitor (RE-START MONITOR menu)**
- **Calibrating the internal signal level (ADJ INT SIGNAL menu)**
- **Improving the skew of the picture from the connected VCR (VCR MODE menu)**
- **Displaying the menu for maintenance (MAINTENANCE menu)**

## Structure of the EXTEND Menu


Level 1
Level 2
Level 3
Level 4
Level 5
INPUT CONFIGURATION C1
REMOTE C2
PASSWORD C3
SYSTEM CONFIGURATION C4
ON SCREEN SET C5
ALIGNMENT C6
WHITE UNIFORMITY C7
EXTEND MENU C8
ENTER PASSWORD C81
RE-LOAD FACTORY DATA C811
SLOT1 CONTROL
SLOT2 SDI 4:2:2/4 FSC1)
SLOT3 EMPTY
SLOT4 EMPTY
SLOT5 EMPTY
SLOT6 VIDEO AMP
SLOT7 DEFLECTION
SLOT8 EMPTY
SLOT9 POWER SUPPLY
C8111
Confirmation message
MEMORY CARD C812
BACK UP SYSTEM DATA C8121
RE-STORE SYSTEM DATA C8122
Confirmation message
RE-START MONITOR C813
ADJ INT SIGNAL C814
VCR MODE C815
MAINTENANCE C816

1) This is displayed when the BKM-21D is installed in the SLOT 2.

## Setting Lists of the EXTEND Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.

*For more information about the menu number, see "About menu numbers" on page 23.*

- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### C8 EXTEND menu

Enter the password (ENTER PASSWORD C81)

When the correct password is entered, the following item appears. Choose the function to execute.

**RE-LOAD FACTORY DATA... :** Restore factory default data for the board installed in the selected slot. ⇨C811

**MEMORY CARD... :** Read and write setting and adjustment data by using the monitor memory card. ⇨C812

**RE-START MONITOR:** Restart the monitor. ⇨C813

**ADJ INT SIGNAL:** Automatically adjust the SETUP level and 100 IRE level of internal signals. ⇨C814

**VDR MODE:** Select the mode of the connected VCR. ⇨C815

**MAINTENANCE:** Display the menu for maintenance.⇨C816

### C811 RE-LOAD FACTORY DATA menu

Select a slot where a board is installed to reload factory default data to the board.⇨C8111

### C8111 RE-LOAD FACTORY DATA menu

The following message appears to confirm the data reload operation.

**DATA RESET TO**
**ITS FACTORY SETTING**
**AND MONITOR WILL RESTART**
**ARE YOU SURE?**
**OK: ENTER KEY**
**CANCEL: MENU KEY**

**OK:** To continue, press the ENTER or Ent button.
⇨ Resets the data and automatically turn the monitor off and on again.

**CANCEL:** To cancel, press the MENU button.
⇨ Returns to the RE-LOAD FACTORY DATA menu. (C811)

### C812 MEMORY CARD menu

Insert the monitor memory card into the MEMORY CARD slot and select the operation to perform.

**BACK UP SYSTEM DATA... :** Write the data to the monitor memory card. ⇨C8121

**RE-STORE SYSTEM DATA... :** Read the data from the monitor memory card. ⇨C8122

**Notes**

- Before using a monitor memory card, it must be formatted it with the FORMAT menu (D4).
- System data and MEMORY CARD data (D) cannot be stored on the same memory card. To store memory card data, use another memory card.
- The BKM-12Y monitor memory card has a capacity of 256 Kbytes. It can store either system data for up to 8 monitors or 38 files of memory card data.

### C8121 BACK UP SYSTEM DATA menu

While the system is writing the data, a "–" mark blinks at the top right of the menu. (It takes some time to save the data.)

**BACK UP SYSTEM DATA**
**IN PROGRESS...SYSTEM**

### C8122 RE-STORE SYSTEM DATA menu

The following message appears to confirm the data restore operation.

**RE-STORE SYSTEM DATA**
**ALL DATA WILL BE RESTORED**
**ARE YOU SURE?**
**OK: ENTER KEY**
**CANCEL: MENU KEY**

**OK:** To continue, press the ENTER or Ent button.
⇨ Read the data from the monitor memory card and automatically turn the monitor off and on again.

**CANCEL:** To cancel, press the MENU button.
⇨ Return to the MEMORY CARD menu (C812).

### C813 RE-START MONITOR menu

Turn the monitor off and on again automatically.

### C814 ADJ INT SIGNAL menu

Adjust the SETUP level and 100 IRE level of the internal white signal which is used with the COLOR TEMP ADJ menu (B).

### C815 VCR MODE menu

Improve the skew of the picture when a non-standard signal is input from the connected VCR. This menu is effective for the 480/60I or 575/50I format signals only.

**ON:** Always activates this function for the 480/60I or 575/60I format signals.

**OFF:** Deactivates this function.

### C816 MAINTENANCE menu

The menu for the maintenance personnel is displayed.

# D Monitor Memory Card Data Operations — MEMORY CARD Menu

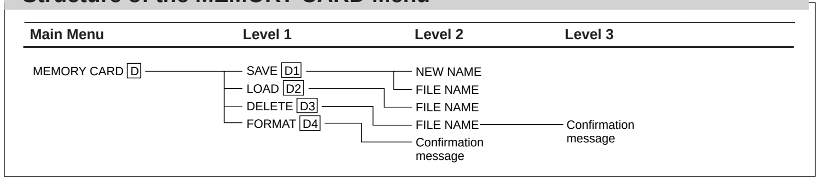
## Overview

Operations on monitor memory card data are performed with the MEMORY CARD menu.
The following operations are possible with the MEMORY CARD menu.

- **Writing data to a monitor memory card (SAVE menu)**
- **Reading data from a monitor memory card (LOAD menu)**
- **Deleting a file in a monitor memory card (DELETE menu)**
- **Formatting a monitor memory card (FORMAT menu)**

**Regarding the Monitor memory card**
While data is being saved or loaded with the monitor memory card, the input signal can't be displayed.

## Structure of the MEMORY CARD Menu



## Setting Lists of the MENU CARD Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see "About menu numbers" on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### D MEMORY CARD menu

Select the operation to perform. (It takes some time to load and save the data.)
**SAVE:** Write data to a monitor memory card. ⇨D1
**LOAD:** Read data from a monitor memory card. ⇨D2
**DELETE:** Delete a file. ⇨D3
**FORMAT:** Format a monitor memory card. ⇨D4

### D1 SAVE menu

Select the name of the file to which to write data, or create a new file name.
**NEW NAME:** Enter a new name (max. 20 characters).

### D2 LOAD menu

Select the name of the file from which to read data.

### D3 DELETE menu

Select the name of the file to delete.
The following confirmation message appears.

**DELETE THIS FILE?**
**OK: ENTER KEY**
**CANCEL: MENU KEY**

**OK:** To continue, press the ENTER or Ent button.
⇨ The file is deleted.
**CANCEL:** To cancel, press the MENU button.
⇨ Return to the MEMORY CARD menu D.

### D4 FORMAT menu

Confirm the format operation. The following confirmation message appears. All files will be deleted at formatting.

**ALL FILES WILL BE DELETED!**
**ARE YOU SURE?**
**OK: ENTER KEY**
**CANCEL: MENU KEY**

**OK:** To continue, press the ENTER or Ent button.
⇨ The format is performed.
**CANCEL:** To cancel, press the MENU button.
⇨ Return to the MEMORY CARD menu (D).

# E Monitor-to-Monitor Data Copy — COPY FROM Menu

## Overview

When multiple BVM-DxxE/DxxF series monitors are connected via their serial remote ports, data can be shared between the monitors by data copy. The data copy from one monitor to another is accomplished with the COPY menu.

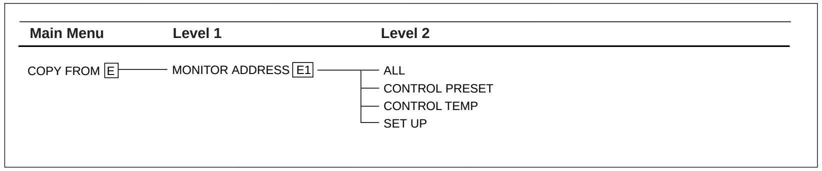
**Note**

Data copy is impossible between monitors other than BVM-DxxE/DxxF series.

First assign the MONITOR ADDRESS from which the data is to copy, then select the data from among the following:

- **Copying data for all menu settings (ALL menu)**
- **Copying data for the CONTROL PRESET ADJ menu settings (CONTROL PRESET menu)**
- **Copying data for the COLOR TEMP ADJ menu settings (COLOR TEMP menu)**
- **Copying data for the SET UP menu settings (SET UP menu)**

## Structure of the COPY FROM Menu



## Setting Lists of the COPY FROM Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see "About menu numbers" on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### E COPY FROM menu

Select the copy source monitor.
**MONITOR ADDRESS:** Enter the monitor address number. ⇨E1

### E1 MONITOR ADDRESS menu

Select the data to be copied. ⇨ Copy is carried out.
**ALL:** Copy data for all menu settings.
**CONTROL PRESET:** Copy the data for the CONTROL PRESET ADJ menu settings.
**COLOR TEMP:** Copy the data for the COLOR TEMP ADJ menu settings.
**SET UP:** Copy the data for the SET UP menu settings.

# D Monitor Memory Card Data Operations — MEMORY CARD Menu

## Overview

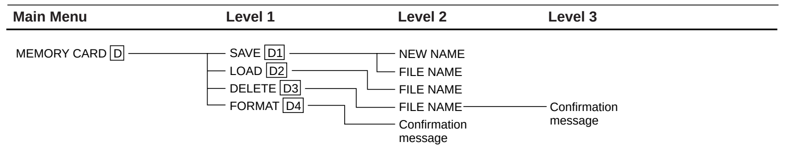
Operations on monitor memory card data are performed with the MEMORY CARD menu.
The following operations are possible with the MEMORY CARD menu.

- **Writing data to a monitor memory card (SAVE menu)**
- **Reading data from a monitor memory card (LOAD menu)**
- **Deleting a file in a monitor memory card (DELETE menu)**
- **Formatting a monitor memory card (FORMAT menu)**

### In the case of temporary freezing controls during serial remote control

- When buttons such as UP/DOWN and ENTER are repeatedly pushed (in quick succession), the buttons may stop functioning.
- In the cse, turning the CHROMA or PHASE knobs will restore function.

## Structure of the MEMORY CARD Menu



## Setting Lists of the MENU CARD Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see “About menu numbers” on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### D MEMORY CARD menu

Select the operation to perform. (It takes some time to load and save the data.)

**SAVE:** Write data to a monitor memory card. ⇨D1
**LOAD:** Read data from a monitor memory card. ⇨D2
**DELETE:** Delete a file. ⇨D3
**FORMAT:** Format a monitor memory card. ⇨D4

### D1 SAVE menu

Select the name of the file to which to write data, or create a new file name.

**NEW NAME:** Enter a new name (max. 20 characters).

### D2 LOAD menu

Select the name of the file from which to read data.

### D3 DELETE menu

Select the name of the file to delete.
The following confirmation message appears.

**DELETE THIS FILE?**
**OK: ENTER KEY**
**CANCEL: MENU KEY**

**OK:** To continue, press the ENTER or Ent button.
⇨ The file is deleted.
**CANCEL:** To cancel, press the MENU button.
⇨ Return to the MEMORY CARD menu D.

### D4 FORMAT menu

Confirm the format operation. The following confirmation message appears. All files will be deleted at formatting.

**ALL FILES WILL BE DELETED!**
**ARE YOU SURE?**
**OK: ENTER KEY**
**CANCEL: MENU KEY**

**OK:** To continue, press the ENTER or Ent button.
⇨ The format is performed.
**CANCEL:** To cancel, press the MENU button.
⇨ Return to the MEMORY CARD menu (D).

# E Monitor-to-Monitor Data Copy — COPY FROM Menu

## Overview

When multiple BVM-DxxE/DxxF series monitors are connected via their serial remote ports, data can be shared between the monitors by data copy. The data copy from one monitor to another is accomplished with the COPY menu.

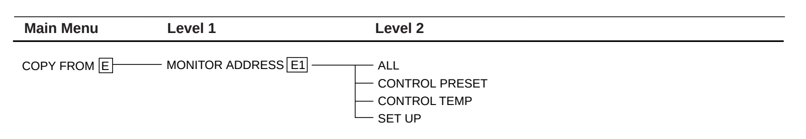
**Note**

Data copy is impossible between monitors other than BVM-DxxE/DxxF series.

First assign the MONITOR ADDRESS from which the data is to copy, then select the data from among the following:

- **Copying data for all menu settings (ALL menu)**
- **Copying data for the CONTROL PRESET ADJ menu settings (CONTROL PRESET menu)**
- **Copying data for the COLOR TEMP ADJ menu settings (COLOR TEMP menu)**
- **Copying data for the SET UP menu settings (SET UP menu)**

## Structure of the COPY FROM Menu



## Setting Lists of the COPY FROM Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see “About menu numbers” on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### E COPY FROM menu

Select the copy source monitor.

**MONITOR ADDRESS:** Enter the monitor address number. ⇨E1

### E1 MONITOR ADDRESS menu

Select the data to be copied. ⇨ Copy is carried out.

**ALL:** Copy data for all menu settings.
**CONTROL PRESET:** Copy the data for the CONTROL PRESET ADJ menu settings.
**COLOR TEMP:** Copy the data for the COLOR TEMP ADJ menu settings.
**SET UP:** Copy the data for the SET UP menu settings.

# F Displaying Information About the Monitor — STATUS Menu

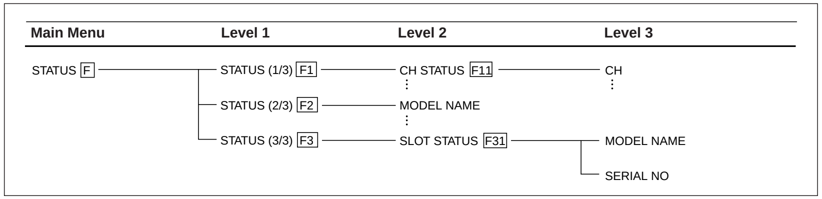
## Overview

The STATUS menu is used to view general data about the monitor status, the current channel, etc.

The following information is displayed on the three pages of the STATUS menu.

- **Data about the current channel (STATUS menu (1/3))**
- **Data about the monitor in use (STATUS menu (2/3))**
- **Data about the circuit boards installed into the slots in the rear panel (STATUS menu (3/3))**

## Structure of the STATUS Menu



## Setting Lists of the STATUS Menu

This section explains the setting lists displayed in the menu.

### How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
  *For more information about the menu number, see "About menu numbers" on page 23.*
- The arrow mark (⇨) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

### F STATUS menu

Select the STATUS menu 1/3, 2/3 or 3/3. ⇨ F1

### F1 STATUS menu (1/3)

Specify the channel block to be detected from channel 1 to channel 99.

### F11 CH STATUS menu (1/3)

Data about the current channel is displayed.
**CH:** channel number
**SL:** slot number
**IN:** input connector number
**FORMAT:** format of the input signal
**NAME:** channel name

### F2 STATUS menu (2/3)

Data about the monitor is displayed.
**MODEL NAME:** model name
**SERIAL NO:** serial number
**OPERATION TIME:** operation time (in hours)
**SOFTWARE VERSION:** software version

### F3 STATUS menu (3/3)

Data about circuit boards installed into the respective slots in the rear panel is displayed.
When the BKM-21D is installed in SLOT 2, the following is displayed. When any optional boards are not installed, EMPTY is displayed for SLOT 2 to SLOT 5.
**SLOT1: CONTROL**
**SLOT2: SDI4:2:2/4FSC**
**SLOT3: EMPTY**
**SLOT4: EMPTY**
**SLOT5: EMPTY**
**SLOT6: VIDEO AMP**
**SLOT7: DEFLECTION**
**SLOT8: EMPTY (BVM-D20F1U/D20F1E/D20F1A) or DIGITAL UNIF (BVM-D24E1WU/D24E1WE/D24E1WA)**
**SLOT9: POWER SUPPLY**

### F31 SLOT STATUS menu

Select the desired slot. Data about the optional board installed in the selected slot is displayed.
**MODEL NAME:** Model name of that optional board
**SERIAL NO:** Serial number of that circuit board

# Selecting the Monitor to Control — ADDRESS Menu

## Overview

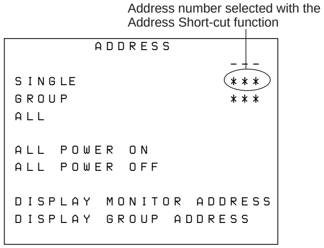
When multiple monitors are connected by a serial remote connection, the ADDRESS menu is used to choose whether one particular monitor or monitor group will be controlled, or whether operations are to be performed on all monitors together.

## Displaying the ADDRESS Menu

Press the ADDRESS button.

The ADDRESS menu is displayed on the screen.

By pressing the ENTER or Ent button after selecting the item, serial remote operation becomes activated.



Address number selected with the Address Short-cut function

```
            ADDRESS
                                   ---
SINGLE                             ***
GROUP                              ***
ALL

ALL POWER ON
ALL POWER OFF

DISPLAY MONITOR ADDRESS
DISPLAY GROUP ADDRESS
```

ADDRESS Menu

Settings made with the menu items are as follows:

| Item | Function |
|---|---|
| SINGLE | Controls only a specified monitor. Enter the monitor address number. |
| GROUP | Controls only a specified monitor group. Enter the group address number. |
| ALL | Controls all monitors. |
| ALL POWER ON | Turns all connected monitors on. |
| ALL POWER OFF | Turns all connected monitors off. |
| DISPLAY MONITOR ADDRESS | When this item is selected, each connected monitor displays its monitor address on its screen. |
| DISPLAY GROUP ADDRESS | When this item is selected, each connected monitor displays its group address on its screen. |

**Notes**

- To remotely control monitors connected in serial, MONITOR ADDRESS or GROUP ADDRESS of monitors should be correctly set in the REMOTE menu.
  *For details of the REMOTE menu, see "C2 Assigning the Remote Control Functions (SET UP 2) – REMOTE Menu" on page 40.*
  - In GROUP mode, when the KEY PROTECT function is set to ON, the LED on the pressed function button lights, but it is deactivated. (LED of other monitors in the same group will not light.)
  - In GROUP or ALL mode, the LEDs of the function buttons will not light with controlled from the menu. (LEDs light only when you press the function button.)
  - In GROUP or ALL mode, LEDs of controlled monitor will light as follows.
    (1) **In case of SHIFT OFF before remote control operation:** LEDs light in green when the SHIFT button is remotely set to OFF.
    (2) **In case of SHIFT ON before remote control operation:** LEDs light in amber when the SHIFT button is remotely set to ON.
    *For details, see "SHIFT button" on page 15.*
- In SINGLE mode, when the data is saved or loaded in or from the memory card, the error message may appear due to data communication error. In such a case, clear the remote mode, then try again.
  It is recommended to save or load data to or from the memory card by controlling the monitor from the BKM-10R/11R directly connected to the target monitor.

## Cancelling the Remote Control Mode

To cancel the remote control mode, press the ADDRESS button.

## Exiting the ADDRESS Menu

To exit the ADDRESS menu, press the ADDRESS button or the MENU button.

## Short-cut Function in the ADDRESS Menu

When selecting the monitor, short-cut function will enable to select the target monitor without using the items in the ADDRESS menu. The operation procedure is as follows.

### To select the monitor in the SINGLE mode

1. Press the ADDRESS button.
2. Press the address number of the target monitor.
   Press one digit address number on the numeric keypad when it is from 1 to 9.
   Press three digits address number (press 0 button and then press the two-digit address number) when it is from 10 to 99.

### To select the monitors in the GROUP mode

1. Press the ADDRESS button.
2. Press the F1 button.
3. Press the group number of the target monitor.
   Press one digit group address number when it is from 1 to 9.
   Press three digits group address number (press 0 button and then press the two-digit group number) when it is from 10 to 99.

### To select all the monitors in the ALL mode

1. Press the ADDRESS button.
2. Press the F2 button.

---

# Specifications

## General

System 15.625 kHz – 45 kHz (For details, see “Available Signal Formats” on page 63.)

CRT

**BVM-D20F1U/D20F1E/D20F1A**

Super fine pitch Trinitron, 4:3 aspect ratio
Aperture grille pitch: 0.3 mm
90 degree deflection, 30.6 mm diameter in-line gun
Effective picture size with 16:9 aspect ratio:
386 × 218 mm ($15\,^1/_4$ × $8^5/_8$ inches) (w/h)
443 mm ($17^1/_2$ inches) (diagonal size)
Effective picture size with 4:3 aspect ratio:
386 × 291 mm ($15\,^1/_4$ × $11^1/_2$ inches) (w/h)
482 mm (19 inches) (diagonal size)
CRT protection: EHT (extremely high tension) protection type
Warm-up time: approx. 30 minutes
Anode voltage: 27 kV with no beam current
Nominal chromaticity coordinates:

SMPTE C phosphor (BVM-D20F1U)

| | x | y |
|---|---|---|
| R | 0.630 | 0.340 |
| G | 0.310 | 0.595 |
| B | 0.155 | 0.070 |

EBU phosphor (BVM-D20F1E/D20F1A)

| | x | y |
|---|---|---|
| R | 0.640 | 0.330 |
| G | 0.290 | 0.600 |
| B | 0.150 | 0.060 |

Error: ± 0.005 or less

**BVM-D24E1WU/D24E1WE/D24E1WA**

Super fine pitch Trinitron, flat surface, 16:9 aspect ratio
Aperture grille pitch: 0.25-0.28 mm
90 degree deflection, 29.1 mm diameter in-line gun
Effective picture size with 16:9 aspect ratio:
482.1 × 271.2 mm (19 × $10^3/_4$ inches) (w/h)
553.1 mm ($21^7/_8$ inches) (diagonal size)
Effective picture size with 4:3 aspect ratio:
361.6 × 271.2 mm ($14^1/_4$ × $10^3/_4$ inches) (w/h)
452.0 mm ($17^7/_8$ inches) (diagonal size)
CRT protection: EHT (extremely high tension) protection type
Warm-up time: approx. 30 minutes
Anode voltage: 27 kV with no beam current
Nominal chromaticity coordinates:

SMPTE C phosphor (BVM-D24E1WU)

| | x | y |
|---|---|---|
| R | 0.630 | 0.340 |
| G | 0.310 | 0.595 |
| B | 0.155 | 0.070 |

EBU phosphor (BVM-D24E1WE/D24E1WA)

| | x | y |
|---|---|---|
| R | 0.640 | 0.330 |
| G | 0.290 | 0.600 |
| B | 0.150 | 0.060 |

Error: ± 0.005 or less

Mass
BVM-D20F1U/D20F1E/D20F1A: approx. 38 kg (83 lb 12 oz)
BVM-D24E1WU/D24E1WE/D24E1WA: approx. 51 kg (112 lb 7 oz)

Power consumption
BVM-D20F1U/D20F1E/D20F1A: 155 W
When an optional adaptor is installed: 210 W
BVM-D24E1WU/D24E1WE/D24E1WA: 150 W
When an optional adaptor is installed: 205 W

Power requirements
BVM-D20F1U/D20F1E/D20F1A: 100 to 240 V AC, 2.3 to 1.0A, 50/60 Hz
BVM-D24E1WU/D24E1WE/D24E1WA: 100 to 240 V AC, 2.1 to 0.9A, 50/60 Hz

Peak inrush current
(1) Power ON, current probe method: 47 A (240 V)
(2) Hot switching inrush current, measured in accordance with European standard EN55103-1
18 A (230 V)

## Specifications

### Input/output connectors

Video input BNC type × 3 (with loop-through outputs)
G/B/R: Composite 1.0 Vp-p or non-composite 0.7 Vp-p
Y: Composite 1.0 Vp-p or non-composite 0.7 Vp-p
PB/PR: Non-composite 0.7 Vp-p
Sync: ±0.3 V±6 dB, positive/negative, tri-level sync, or 0.3 V±6 dB negative sync
Sync input BNC type × 1 (with loop-through output)
0.3 to 8 Vp-p, positive/negative, tri-level sync signal input, or 0.3 to 8 Vp-p, negative sync signal input
Return loss More than 40 dB (10 MHz, with 75-ohm termination)
Remote control
OPTION: Mini-DIN 8-pin × 1
CONTROL UNIT: D-sub 9-pin × 1
REMOTE 1:D-sub 9-pin × 1 (with loop-through output), RS-485 serial interface
REMOTE 2: D-sub 9-pin × 1
ISR: D-sub 9-pin × 1

### Video signal

Differential gain
Less than 5% (for luminance from 0 to 100 cd/m$^2$)
Differential phase
Less than 5° (for luminance from 0 to 100 cd/m$^2$)
Frequency response
50 Hz to 30 MHz, +1 dB/ –3 dB
DC restoration
Back porch type
Black level fluctuation: less than 1% for 10 % to 90% APL input signal variation

### Synchronization

Vertical blanking time
Less than 650 µs.
Horizontal blanking time
Less than 3.77 µs. (1080/60I, 1035/60I)

### Picture performance

Normal scan
5% overscan of CRT effective screen area (±10% of CRT effective screen area)
Underscan 3% underscan of CRT effective screen area (±10% of CRT effective screen area)
Linearity Within a central area bounded by a circle with a diameter equal to the picture height, less than 0.5 % of the picture height, and outside the same area, about 1 % of the picture height (1080/60I, 1035/60I)
Color temperature
D65, D93 (adjustable to other color temperatures)
Convergence error
Within a central area bounded by a circle with a diameter equal to the picture height.
Less than 0.4 mm with a central area bounded by a circle and less than 0.7 mm at any other point.
Standard luminescence
100 cd/m$^2$ (at standard 1 Vp-p 100% white signal)
Raster size stability
Less than 1% of picture height (at 100 cd/m$^2$ peak luminescence, 10 to 90% APL)
Scan delay Horizontal: Approx. $^3/_8$ line
Vertical: Approx. $^1/_2$ field
Resolution (at screen center, 100 cd/m$^2$ luminescence)
BVM-D20F1U/D20F1E/D20F1A:
700 TV lines (16:9)
900 TV lines (4:3)
BVM-D24E1WU/D24E1WE/D24E1WA:
1000 TV lines (16:9)
1000 TV lines (4:3)

### Operating conditions

Temperature
0°C to 35°C (32°F to 95°F)
Optimum temperature
20°C to 30°C (68°F to 86°F)
Humidity 0% to 90% (no condensation)
Pressure 700 hPa to 1060 hPa

### Storage and transport conditions

Temperature
–10°C to 40°C (14°F to 104°F)
Humidity 0% to 90%
Pressure 700 hPa to 1060 hPa

### Accessories supplied

AC power cord (1)
AC plug holder (1)
Fuse (1)
Tally plate (1) (BVM-D20F1U/D20F1E/D20F1A only)
4:3 mask (1) (BVM-D20F1U/D20F1E/D20F1A only)
Operation manual (1)
Quick reference (1)

### Acquired safety regulations

UL1950, CSA No.950
FCC Class A, IC Class A
DHHS, DNHW
TÜV (EN60950)
CE, C-tick

Design and specifications are subject to change without notice.

## Available Signal Formats

| System | Total lines per frame | Active lines per frame | Frame rate** (Hz) | Scanning format | Aspect | Standard |
|---|---|---|---|---|---|---|
| 575/50I (PAL*) | 625 | 575 | 25 | 2:1 interlace | 16:9/4:3 | ITU 601 |
| 480/60I (NTSC*) | 525 | 483 | 30 | 2:1 interlace | 16:9/4:3 | ITU 601 |
| 575/50P | 625 | 575 | 50 | Progressive | 16:9/4:3 | – |
| 480/60P | 525 | 483 | 60 | Progressive | 16:9/4:3 | SMPTE 293M |
| 1080/48I | 1125 | 1080 | 24 | 2:1 interlace | 16:9 | – |
| 1080/50I | 1125 | 1080 | 25 | 2:1 interlace | 16:9 | SMPTE 274M |
| 1035/60I | 1125 | 1035 | 30 | 2:1 interlace | 16:9 | BTA S-001B |
| 1080/60I | 1125 | 1080 | 30 | 2:1 interlace | 16:9 | SMPTE 274M/BTA S-001B |
| 720/60P | 750 | 720 | 60 | Progressive | 16:9 | SMPTE 296M |

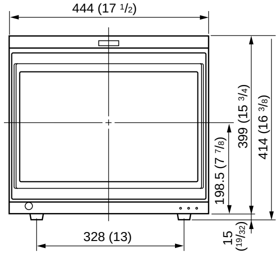
* Available when the optional adaptor is installed.
** Also compatible with 1/1.001.

## Dimensional Drawing

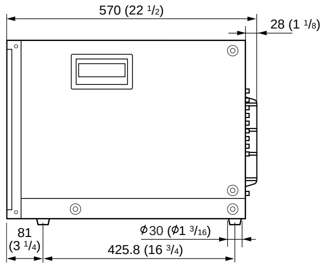
### BVM-D20F1U/D20F1E/D20F1A

Unit: mm (inches)

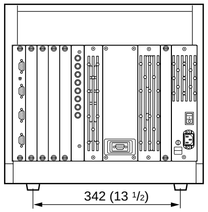
**Front**


444 (17 1/2)
399 (15 3/4)
414 (16 3/8)
198.5 (7 7/8)
328 (13)
15 (19/32)

**Side**


570 (22 1/2)
28 (1 1/8)
81 (3 1/4)
φ30 (φ1 3/16)
425.8 (16 3/4)

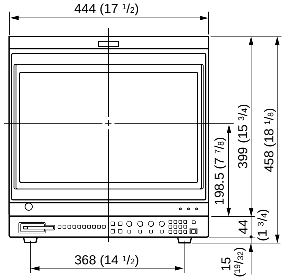
**Rear**



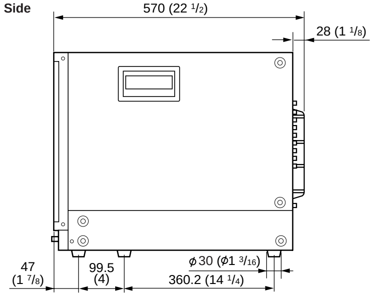
**With BKM-10R attached**

Unit: mm (inches)

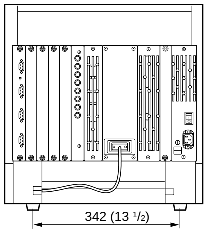
**Front**


444 (17 1/2)
399 (15 3/4)
458 (18 1/8)
198.5 (7 7/8)
44 (1 3/4)
368 (14 1/2)
15 (19/32)

**Side**


570 (22 1/2)
28 (1 1/8)
47 (1 7/8)
99.5 (4)
φ30 (φ1 3/16)
360.2 (14 1/4)

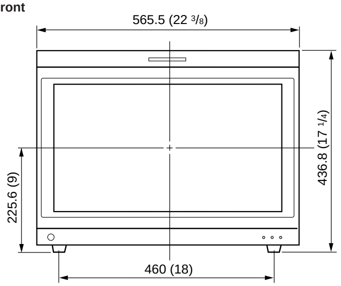
**Rear**



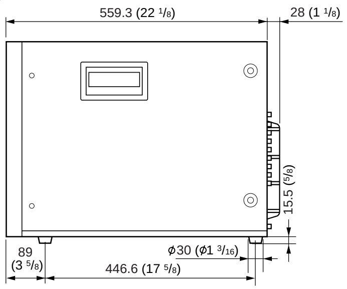
### BVM-D24E1WU/D24E1WE/D24E1WA

Unit: mm (inches)

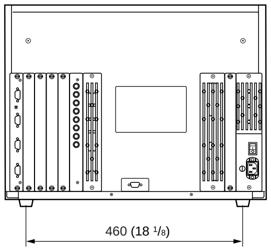
**Front**


565.5 (22 3/8)
225.6 (9)
436.8 (17 1/4)
460 (18)

**Side**


559.3 (22 1/8)
28 (1 1/8)
15.5 (5/8)
89 (3 5/8)
φ30 (φ1 3/16)
446.6 (17 5/8)

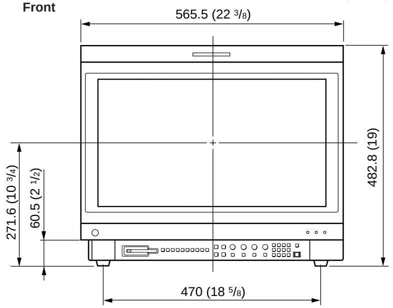
**Rear**



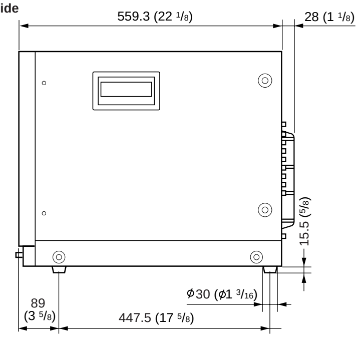
**With BKM-10R attached**

Unit: mm (inches)

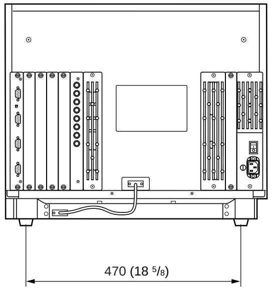
**Front**


565.5 (22 3/8)
271.6 (10 3/4)
60.5 (2 1/2)
482.8 (19)
470 (18 5/8)

**Side**


559.3 (22 1/8)
28 (1 1/8)
15.5 (5/8)
89 (3 5/8)
φ30 (φ1 3/16)
447.5 (17 5/8)

**Rear**



## Connection Cable Specifications for Color Temperature Probes

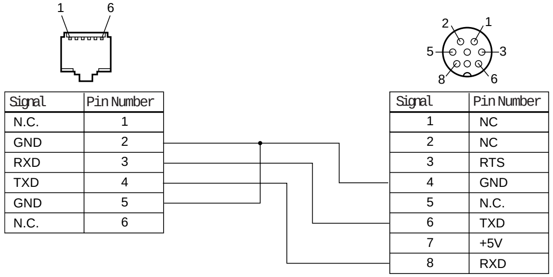
Special cables are required to connect color temperature probes other than the Sony BKM-14L to the monitor.

The following diagrams show specifications and pin assignments for the required cables.

### Connection cable for GRASEBY SLS 9400 probe

Modular connector

Mini DIN 8-pin connector (male)



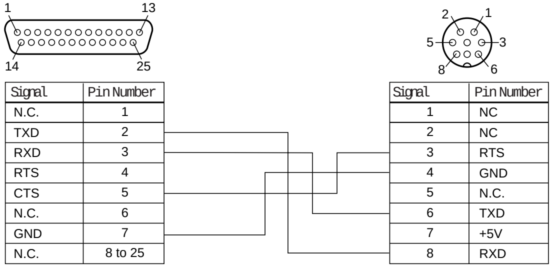
| Signal | Pin Number |
|---|---|
| N.C. | 1 |
| GND | 2 |
| RXD | 3 |
| TXD | 4 |
| GND | 5 |
| N.C. | 6 |

| Signal | Pin Number |
|---|---|
| 1 | NC |
| 2 | NC |
| 3 | RTS |
| 4 | GND |
| 5 | N.C. |
| 6 | TXD |
| 7 | +5V |
| 8 | RXD |

### Connection cable for MINOLTA CA-100 probe

D-sub 25-pin connector (male)

Mini DIN 8-pin connector (male)



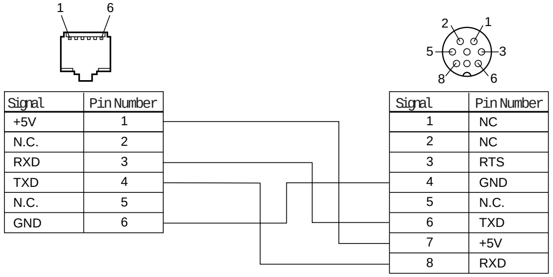
| Signal | Pin Number |
|---|---|
| N.C. | 1 |
| TXD | 2 |
| RXD | 3 |
| RTS | 4 |
| CTS | 5 |
| N.C. | 6 |
| GND | 7 |
| N.C. | 8 to 25 |

| Signal | Pin Number |
|---|---|
| 1 | NC |
| 2 | NC |
| 3 | RTS |
| 4 | GND |
| 5 | N.C. |
| 6 | TXD |
| 7 | +5V |
| 8 | RXD |

### Connection cable for PHILIPS PM 5639 probe (corresponds to PHILIPS PM 5639/64 cable)

Modular connector

Mini DIN 8-pin connector (male)



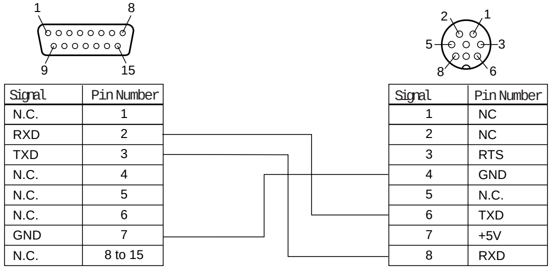
| Signal | Pin Number |
|---|---|
| +5V | 1 |
| N.C. | 2 |
| RXD | 3 |
| TXD | 4 |
| N.C. | 5 |
| GND | 6 |

| Signal | Pin Number |
|---|---|
| 1 | NC |
| 2 | NC |
| 3 | RTS |
| 4 | GND |
| 5 | N.C. |
| 6 | TXD |
| 7 | +5V |
| 8 | RXD |

### Connection cable for THOMA TF6 probe

D-sub 15-pin connector (female)

Mini DIN 8-pin connector (male)



| Signal | Pin Number |
|---|---|
| N.C. | 1 |
| RXD | 2 |
| TXD | 3 |
| N.C. | 4 |
| N.C. | 5 |
| N.C. | 6 |
| GND | 7 |
| N.C. | 8 to 15 |

| Signal | Pin Number |
|---|---|
| 1 | NC |
| 2 | NC |
| 3 | RTS |
| 4 | GND |
| 5 | N.C. |
| 6 | TXD |
| 7 | +5V |
| 8 | RXD |

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# Menu Index

The menu index shows the menu items provided with this monitor in alphabetical order. For you reference, each menu item is followed by the page of this manual on which the item is explained, its menu number, and the Main Menu that the item belongs to.

| | Menu Item | Page | Menu number | Main menu |
|---|---|---|---|---|
| A | ADDRESS | 59 | — | ADDRESS menu |
| | ADJ INT SIGNAL | 55 | C814 | SET UP/EXTEND menu |
| | ADJUST | 33 | B1211 | COLOR TEMP ADJ menu |
| | | 52 | C731 | SET UP/WHITE UNIFORMITY menu |
| | ALIGNMENT | 49 | C6 | SET UP/ALIGNMENT menu |
| | ANALYZE | 33 | B1212 | COLOR TEMP ADJ menu |
| | APPLY PASSWORD | 43 | C312 | SETUP/PASSWORD menu |
| | AUTO | 29 | A12 | CONTROL PRESET ADJ menu |
| | | 51 | C72 | SET UP/WHITE UNIFORMITY menu |
| | AUTO FULL POINTS | 52 | C74 | SET UP/WHITE UNIFORMITY menu |
| | AUTO ONE POINT | 53 | C75 | SET UP/WHITE UNIFORMITY menu |
| B | BACK UP SYSTEM DATA | 55 | C8121 | SET UP/EXTEND menu |
| C | CAPTION VISION | 47 | C51 | SET UP/ON SCREEN SET menu |
| | CH NAME | 47 | C54 | SET UP/ON SCREEN SET menu |
| | CH NAME POSITION | 47 | C54 | SET UP/ON SCREEN SET menu |
| | CH NO | 47 | C53 | SET UP/ON SCREEN SET menu |
| | CH NO POSITION | 47 | C53 | SET UP/ON SCREEN SET menu |
| | CH SET | 29 | A1 | CONTROL PRESET ADJ menu |
| | | 32 | B1 | COLOR TEMP ADJ menu |
| | CH STATUS | 58 | F11 | STATUS menu |
| | CHANGE PASSWORD | 43 | C311 | SET UP/PASSWORD menu |
| | CHANNEL NAME | 39 | C15 | SET UP/INPUT CONFIGURATION menu |
| | COL1 | 32 | B1 | COLOR TEMP ADJ menu |
| | COL2 | 32 | B1 | COLOR TEMP ADJ menu |
| | COLOR TEMP | 39 | C16 | SET UP/INPUT CONFIGURATION menu |
| | COLOR TEMP ADJ | 32 | B | COLOR TEMP ADJ menu |
| | COMPONENT | 38 | C112 | SET UP/INPUT CONFIGURATION menu |
| | COMPOSITE | 38 | C111 | SET UP/INPUT CONFIGURATION menu |
| | CONTROL PRESET ADJ | 28 | A | CONTROL PRESET ADJ menu |
| | COPY FROM | 29 | A13 | CONTROL PRESET ADJ menu |
| | | 33 | B13 | COLOR TEMP ADJ menu |
| | | 39 | C17 | SET UP/INPUT CONFIGURATION menu |
| | | 57 | E | COPY FROM menu |
| D | DELETE | 56 | D3 | MEMORY CARD menu |
| | DIGITAL UNIFORMITY ADJ | 51 | C7 | SET UP/WHITE UNIFORMITY menu |
| | DIRECTION | 51 | C711 | SET UP/WHITE UNIFORMITY menu |
| E | ENTER PASSWORD | 43 | C31 | SET UP/PASSWORD menu |
| | | 43 | C3111 | SET UP/PASSWORD menu |
| | | 55 | C81 | SET UP/EXTEND menu |
| | EXTEND | 55 | C8 | SET UP/EXTEND menu |

| | Menu Item | Page | Menu number | Main menu |
|---|---|---|---|---|
| F | FILE NAME | 29 | A1331 | CONTROL PRESET ADJ menu |
| | | 34 | B1331 | COLOR TEMP ADJ menu |
| | | 39 | C1721 | SET UP/INPUT CONFIGURATION menu |
| | FINE ADJUST | 51 | C712 | SET UP/WHITE UNIFORMITY menu |
| | FORMAT | 37 | C11 | SET UP/INPUT CONFIGURATION me |
| | | 56 | D4 | MEMORY CARD menu |
| | FORMAT DISPLAY | 47 | C52 | SET UP/ON SCREEN DISPALY menu |
| G | GRASEBY | 33 | B122 | COLOR TEMP ADJ menu |
| I | INPUT CONFIGURATION | 37 | C1 | SET UP/INPUT CONFIGURATION menu |
| K | KEY PROTECT | 27 | G | KEY PROTECT menu |
| L | LANDING ADJUST | 51 | C7 | SET UP/WHITE UNIFORMITY menu |
| | LOAD | 56 | D2 | MEMORY CARD menu |
| M | MAINTENANCE | 55 | C816 | SET UP/EXTEND menu |
| | MANUAL | 29 | A11 | CONTROL PRESET ADJ menu |
| | | 32 | B11 | COLOR TEMP ADJ menu |
| | | 51 | C71 | SET UP/WHITE UNIFORMITY menu |
| | | 52 | C73 | SET UP/WHITE UNIFORMITY menu |
| | MATRIX | 29 | A2 | CONTROL PRESET ADJ menu |
| | MEMORY CARD | 29 | A133 | CONTROL PRESET ADJ menu |
| | | 34 | B133 | COLOR TEMP ADJ menu |
| | | 39 | C172 | SET UP/INPUT CONFIGURATION menu |
| | | 55 | C812 | SET UP/EXTEND menu |
| | | 56 | D | MEMORY CARD menu |
| | MINOLTA | 33 | B122 | COLOR TEMP ADJ menu |
| | MONITOR ADDRESS | 29 | A1321 | CONTROL PRESET ADJ menu |
| | | 34 | B1321 | COLOR TEMP ADJ menu |
| | | 39 | C1711 | SET UP/INPUT CONFIGURATION menu |
| | | 57 | E1 | COPY FROM menu |
| O | ON SCREEN SET | 47 | C5 | SET UP/ON SCREEN SET menu |
| | OTHER MONITOR | 29 | A132 | CONTROL PRESET ADJ menu |
| | | 33 | B132 | COLOR TEMP ADJ menu |
| | | 39 | C171 | SET UP/INPUT CONFIGURATION menu |
| | OTHER VALUE | 29 | A131 | CONTROL PRESET ADJ menu |
| | | 33 | B131 | COLOR TEMP ADJ menu |
| P | PASSWORD | 43 | C3 | SET UP/PASSWORD menu |
| | PHILIPS | 33 | B122 | COLOR TEMP ADJ menu |
| | PRESET | 29 | A1 | CONTROL PRESET ADJ menu |
| | PROBE | 32 | B12 | COLOR TEMP ADJ menu |
| R | RE-LOAD FACTORY DATA | 55 | C811 | SET UP/EXTEND menu |
| | REMOTE | 41 | C2 | SET UP/REMOTE menu |
| | REMOTE 1 CONFIG | 41 | C21 | SET UP/REMOTE menu |
| | REMOTE 2 CONFIG | 41 | C22 | SET UP/REMOTE menu |
| | RE-START MONITOR | 55 | C813 | SET UP/EXTEND menu |
| | RE-STORE SYSTEM DATA | 55 | C8122 | SET UP/EXTEND menu |

*(continued)*

## Menu Index

| | Menu Item | Page | Menu number | Main menu |
|---|---|---|---|---|
| S | SAFE AREA MODE | 38 | C14 | SET UP/INPUT CONFIGURATION menu |
| | SAVE | 56 | D1 | MEMORY CARD menu |
| | SCREEN MODE | 38 | C13 | SET UP/INPUT CONFIGURATION menu |
| | SDI | 38 | C113 | SET UP/INPUT CONFIGURATION menu |
| | SET PROBE ON CURSOR | 52 | C721 | SET UP/WHITE UNIFORMITY menu |
| | | 52 | C741 | SET UP/WHITE UNIFORMITY menu |
| | SET PROBE ON THIS CRT | 33 | B12121 | COLOR TEMP ADJ menu |
| | SET UP | 27 | C | SET UP menu |
| | SLOT 1 – SLOT 9 | 55 | C8111 | SET UP/EXTEND menu |
| | SLOT STATUS | 58 | F31 | STATUS menu |
| | SONY BKM-14L | 33 | B121 | COLOR TEMP ADJ menu |
| | START | 33 | B12111 | COLOR TEMP ADJ menu |
| | STATUS | 58 | F | STATUS menu |
| | | 58 | F1 | STATUS menu |
| | | 58 | F2 | STATUS menu |
| | | 58 | F3 | STATUS menu |
| | STD | 32 | B1 | COLOR TEMP ADJ menu |
| | SYSTEM CONFIGURATION | 45 | C4 | SET UP/SYSTEM CONFIGURATION menu |
| T | THOMA | 33 | B122 | COLOR TEMP ADJ menu |
| | TRIM | 34 | B14 | COLOR TEMP ADJ menu |
| V | VCR MODE | 55 | C815 | SET UP/EXTEND menu |
| W | WHITE UNIFORMITY | 50 | C7 | SET UP/WHITE UNIFORMITY menu |
| Y | YC | 37 | C111 | SET UP/INPUT CONFIGURATION menu |
| | YC SEP | 38 | C12 | SET UP/INPUT CONFIGURATION menu |
| 1 | 1 PIN – 8 PIN | 41 | C221 | SET UP/REMOTE menu |

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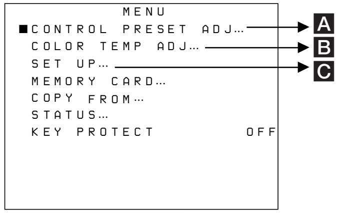
## Quick Reference

## MENU

### Menu List

Press the MENU button.


MENU
■CONTROL PRESET ADJ…
COLOR TEMP ADJ…
SET UP…
MEMORY CARD…
COPY FROM…
STATUS…
KEY PROTECT OFF
A
B
C

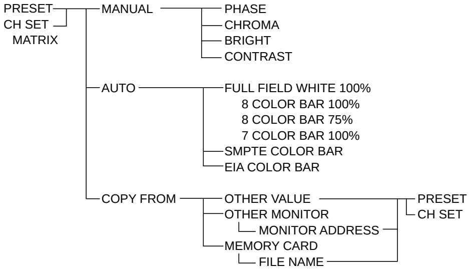
## Menu Operation

- **To confirm your selection/setting** → Press ENTER or Ent.
- **To abort menu operation** → Press MENU.
- **To move the cursor** → Press UP/DOWN or turn PHASE.

Options in blue: Disabled
PRESET: Sets common data for all channnels.
CH SET: Sets data for each individual channel.
F1 button: Turns on/off characters on the screen in MANUAL adjustment mode.

## A CONTROL PRESET ADJ

### Contrast/brightness/chroma/phase adjustments

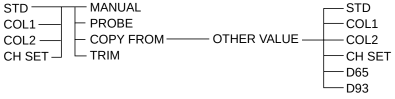

PRESET
CH SET
MATRIX
MANUAL
PHASE
CHROMA
BRIGHT
CONTRAST
AUTO
FULL FIELD WHITE 100%
8 COLOR BAR 100%
8 COLOR BAR 75%
7 COLOR BAR 100%
SMPTE COLOR BAR
EIA COLOR BAR
COPY FROM
OTHER VALUE
OTHER MONITOR
MONITOR ADDRESS
MEMORY CARD
FILE NAME
PRESET
CH SET

**MATRIX for YP$_B$P$_R$ signals**
PRESET: Default setting is automatically selected.
CH SET: Selects MATRIX for each individual signal format to be applied on all channels (ITU 709, ITU 601 or SMPTE 240M)

## B COLOR TEMP ADJ

### Color Temperature Adjustment

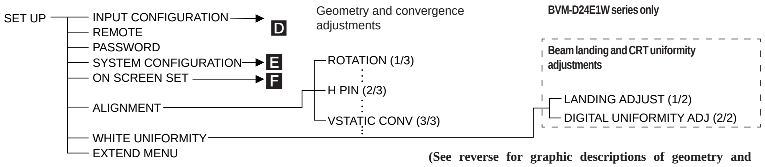
STD, COL 1, COL 2: Sets common data for all channnels.
CH SET: Sets data for each individual channel.


STD
COL1
COL2
CH SET
MANUAL
PROBE
COPY FROM
TRIM
OTHER VALUE
STD
COL1
COL2
CH SET
D65
D93

- When the short-cut for while balance menu is assigned (see **E** SYSTEM CONFIGURATION), press the F2 button to display the MANUAL menu.

## C SET UP

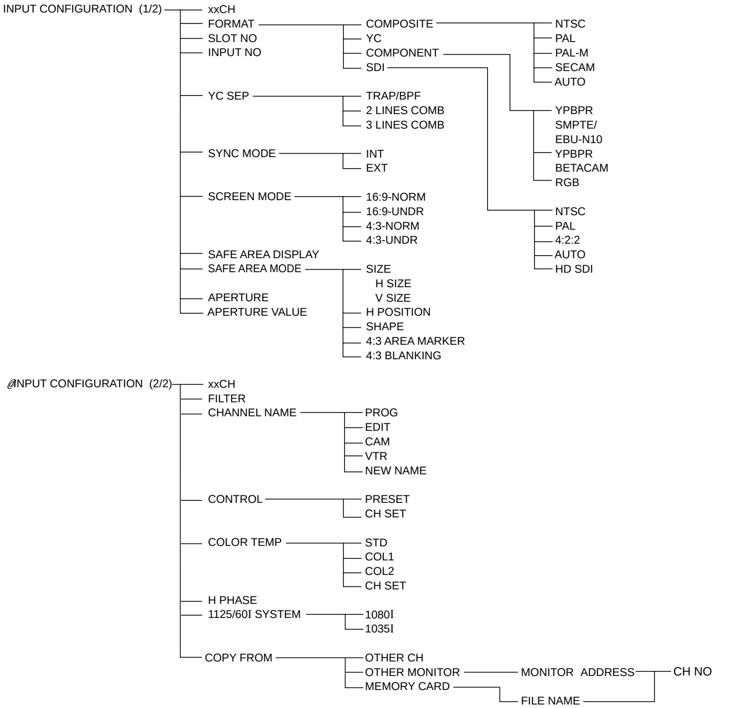
**Set up menus for input channel, on screen display, decoders, etc.**


SET UP
INPUT CONFIGURATION
D
REMOTE
PASSWORD
SYSTEM CONFIGURATION
E
ON SCREEN SET
F
ALIGNMENT
WHITE UNIFORMITY
EXTEND MENU
Geometry and convergence adjustments
ROTATION (1/3)
H PIN (2/3)
VSTATIC CONV (3/3)
BVM-D24E1W series only
Beam landing and CRT uniformity adjustments
LANDING ADJUST (1/2)
DIGITAL UNIFORMITY ADJ (2/2)

**(See reverse for graphic descriptions of geometry and convergence adjustments.)**

## D INPUT CONFIGURATION

**Settings pertaining to the input signal**


INPUT CONFIGURATION (1/2)
xxCH
FORMAT
SLOT NO
INPUT NO
COMPOSITE
YC
COMPONENT
SDI
NTSC
PAL
PAL-M
SECAM
AUTO
YC SEP
TRAP/BPF
2 LINES COMB
3 LINES COMB
YPBPR SMPTE/EBU-N10
YPBPR BETACAM
RGB
SYNC MODE
INT
EXT
SCREEN MODE
16:9-NORM
16:9-UNDR
4:3-NORM
4:3-UNDR
NTSC
PAL
4:2:2
AUTO
HD SDI
SAFE AREA DISPLAY
SAFE AREA MODE
SIZE
H SIZE
V SIZE
APERTURE
APERTURE VALUE
H POSITION
SHAPE
4:3 AREA MARKER
4:3 BLANKING
@INPUT CONFIGURATION (2/2)
xxCH
FILTER
CHANNEL NAME
PROG
EDIT
CAM
VTR
NEW NAME
CONTROL
PRESET
CH SET
COLOR TEMP
STD
COL1
COL2
CH SET
H PHASE
1125/60I SYSTEM
1080I
1035I
COPY FROM
OTHER CH
OTHER MONITOR
MEMORY CARD
MONITOR ADDRESS
FILE NAME
CH NO

Quick Reference is shown with necessary changes.

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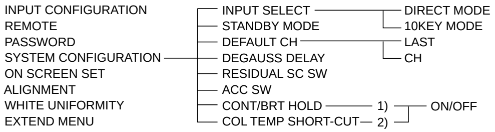
## E SYSTEM CONFIGURATION

**Settings of the channel selection method, power-up conditions and decoder**

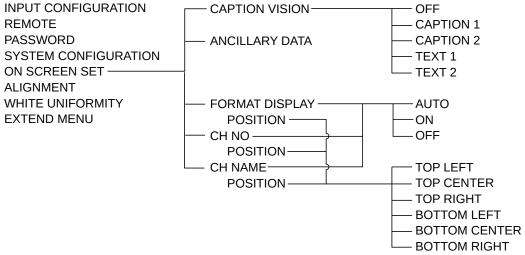

INPUT CONFIGURATION
REMOTE
PASSWORD
SYSTEM CONFIGURATION
ON SCREEN SET
ALIGNMENT
WHITE UNIFORMITY
EXTEND MENU
INPUT SELECT
STANDBY MODE
DEFAULT CH
DEGAUSS DELAY
RESIDUAL SC SW
ACC SW
CONT/BRT HOLD
COL TEMP SHORT-CUT
1)
2)
ON/OFF
DIRECT MODE
10KEY MODE
LAST
CH

1) Contrast and brightness settings for white balance adjustment

2) Assignment of short-cuts for white balance menu (assignment to the F2 button.)

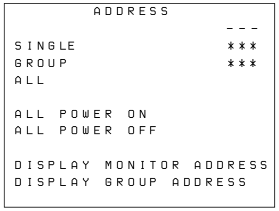
## F ON SCREEN SET

**On screen display settings such as input channel number, the frequency of the current input signal, etc.**


INPUT CONFIGURATION
REMOTE
PASSWORD
SYSTEM CONFIGURATION
ON SCREEN SET
ALIGNMENT
WHITE UNIFORMITY
EXTEND MENU
CAPTION VISION
ANCILLARY DATA
FORMAT DISPLAY
POSITION
CH NO
POSITION
CH NAME
POSITION
OFF
CAPTION 1
CAPTION 2
TEXT 1
TEXT 2
AUTO
ON
OFF
TOP LEFT
TOP CENTER
TOP RIGHT
BOTTOM LEFT
BOTTOM CENTER
BOTTOM RIGHT

## ADDRESS

**Selects the monitor to be controlled.**



```
        ADDRESS
                           ---
SINGLE                     ***
GROUP                      ***
ALL

ALL POWER ON
ALL POWER OFF

DISPLAY MONITOR ADDRESS
DISPLAY GROUP ADDRESS
```

## Address Short-cut Function

Selects the monitor(s) to be controlled using the buttons only.

**SINGLE mode:** Press the ADDRESS button, then input the address number of the target monitor using the numeric keypad.

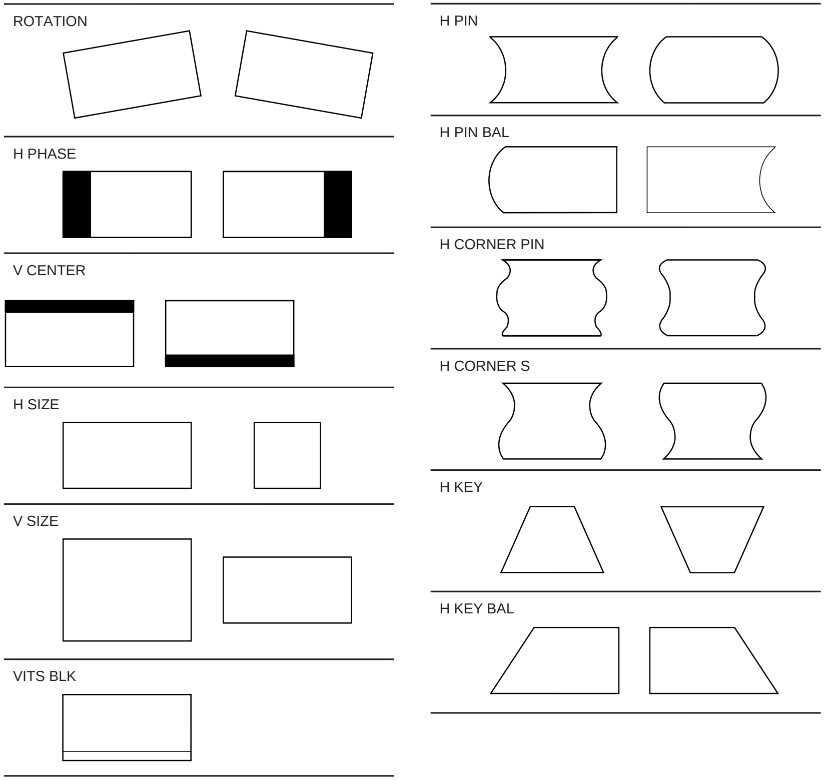
**GROUP mode:** Press the ADDRESS button and F1 button, then input the group address number of the target monitor using the numeric keypad.

**ALL mode:** Press the ADDRESS button and F2 button.

## Geometry and Convergence Adjustments

The following illustrations show the geometry and convergence adjustments using the ALIGNMENT menu.

ALIGNMENT menu (1/3)


ROTATION
H PHASE
V CENTER
H SIZE
V SIZE
VITS BLK
H PIN
H PIN BAL
H CORNER PIN
H CORNER S
H KEY
H KEY BAL

## Available Signal Formats

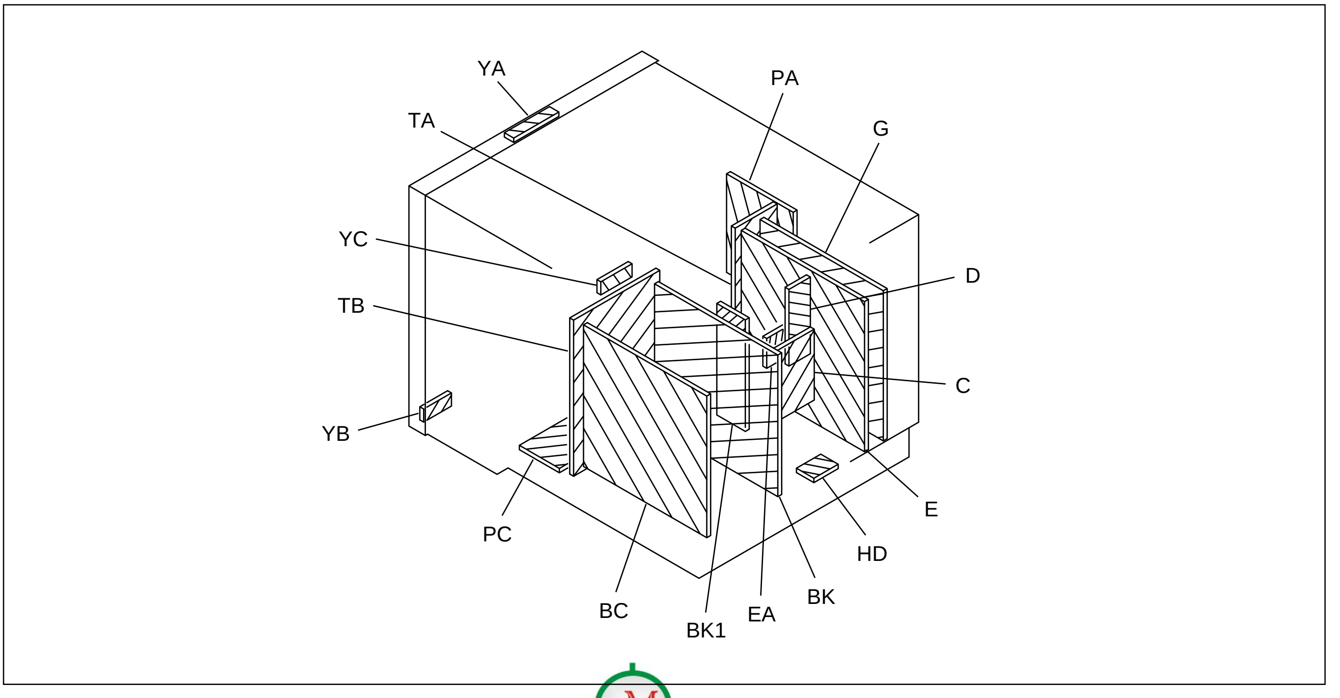
| System | Total lines per frame | Active lines per frame | Frame rate** (Hz) | Scanning format | Aspect ratio | Standard |
|---|---|---|---|---|---|---|
| **575/50I(PAL*)** | **625** | **575** | **25** | **2:1 interlace** | **16:9/4:3** | **ITU 601** |
| **480/60I(NTSC*)** | **525** | **483** | **30** | **2:1 interlace** | **16:9/4:3** | **ITU 601** |
| **575/50P** | **625** | **575** | **50** | **Progressive** | **16:9/4:3** | ——— |
| **480/60P** | **525** | **483** | **60** | **Progressive** | **16:9/4:3** | **SMPTE 293M** |
| **1080/48I** | **1125** | **1080** | **24** | **2:1 interlace** | **16:9** | ——— |
| **1080/50I** | **1125** | **1080** | **25** | **2:1 interlace** | **16:9** | **SMPTE 274M** |
| **1035/60I** | **1125** | **1035** | **30** | **2:1 interlace** | **16:9** | **BTA S-001B** |
| **1080/60I** | **1125** | **1080** | **30** | **2:1 interlace** | **16:9** | **SMPTE 274M/BTA S-001B** |
| **720/60P** | **750** | **720** | **60** | **Progressive** | **16:9** | **SMPTE 296M** |

* PAL and NTSC color systems are active when an optional decoder is attached.

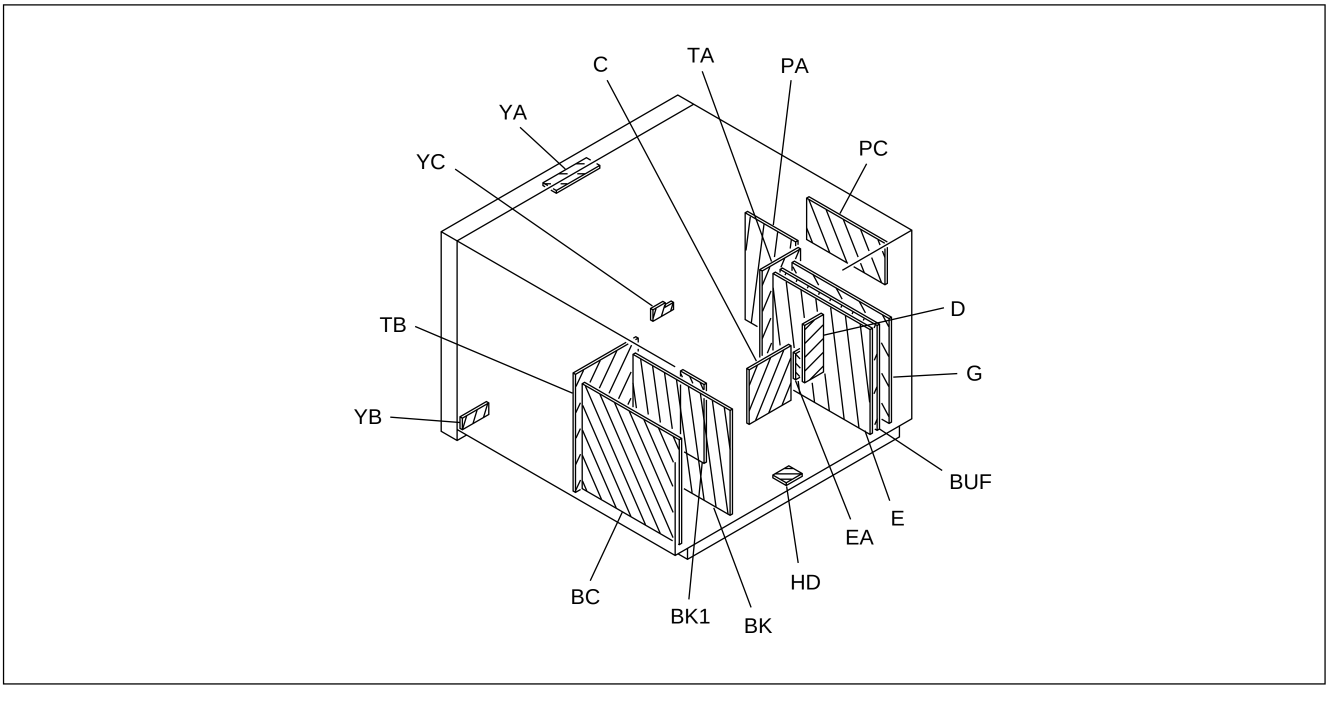
** Frame rate is also compatible with 1/1.001.

# Section 2
# Service Informations

## 2-1. Circuit Boards Location
### 2-1-1. BVM-D20F1A/D20F1E/D20F1U

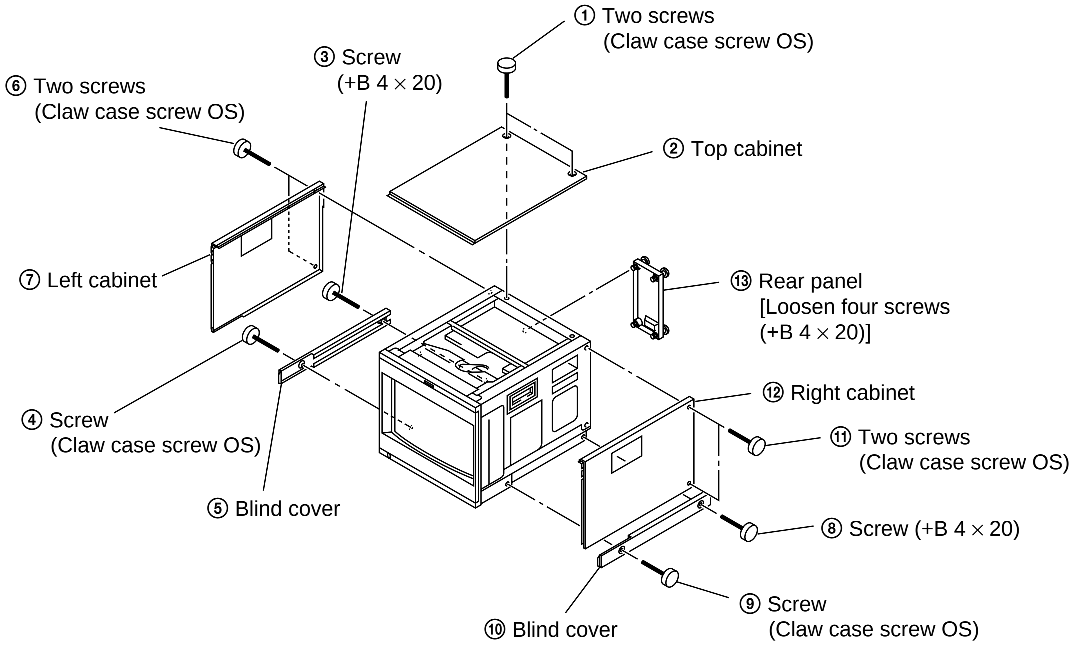

YA
PA
TA
G
YC
D
TB
C
YB
E
PC
HD
BK
BC
EA
BK1

### 2-1-2. BVM-D24E1WA/D24E1WE/D24E1WU

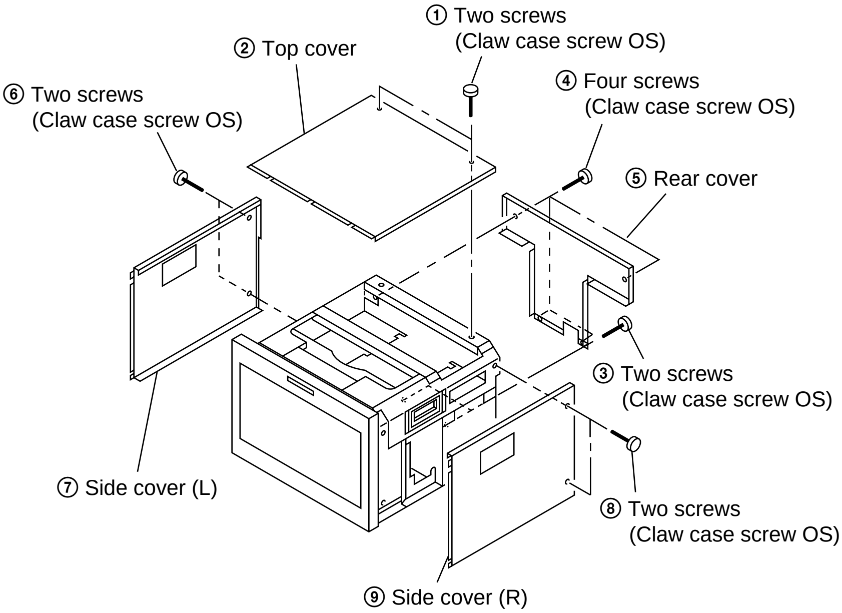

C
TA
PA
YA
PC
YC
D
TB
G
YB
BUF
E
EA
HD
BC
BK1
BK

# 2-2. Disassembly

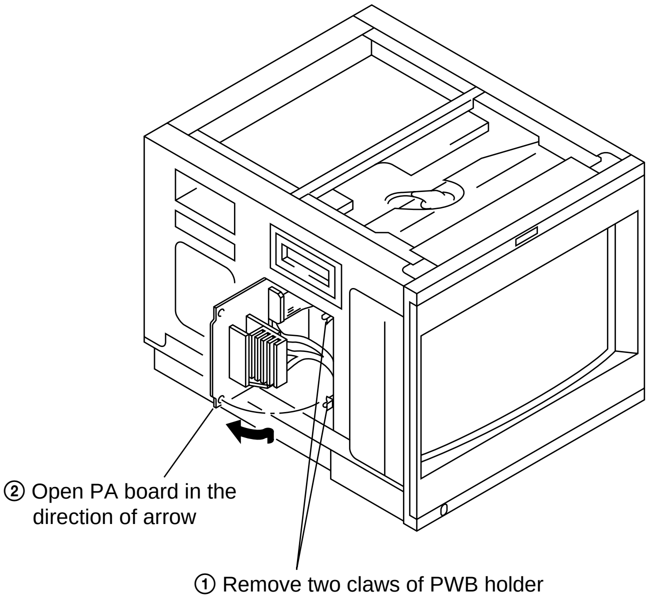
## 2-2-1-1. Cabinet Removal (20 inch)


① Two screws
(Claw case screw OS)
③ Screw
(+B 4 × 20)
⑥ Two screws
(Claw case screw OS)
② Top cabinet
⑦ Left cabinet
⑬ Rear panel
[Loosen four screws
(+B 4 × 20)]
⑫ Right cabinet
④ Screw
(Claw case screw OS)
⑪ Two screws
(Claw case screw OS)
⑤ Blind cover
⑧ Screw (+B 4 × 20)
⑨ Screw
(Claw case screw OS)
⑩ Blind cover

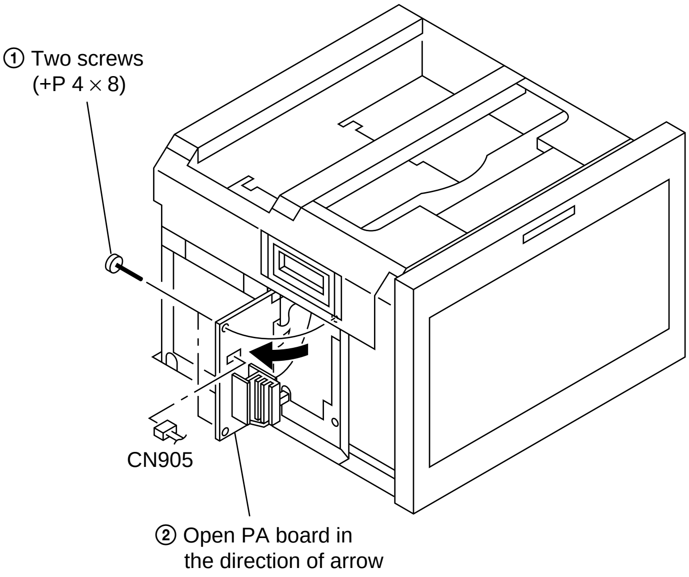
## 2-2-1-2. Cover Removal (24 inch)


① Two screws
(Claw case screw OS)
② Top cover
④ Four screws
(Claw case screw OS)
⑥ Two screws
(Claw case screw OS)
⑤ Rear cover
③ Two screws
(Claw case screw OS)
⑦ Side cover (L)
⑧ Two screws
(Claw case screw OS)
⑨ Side cover (R)

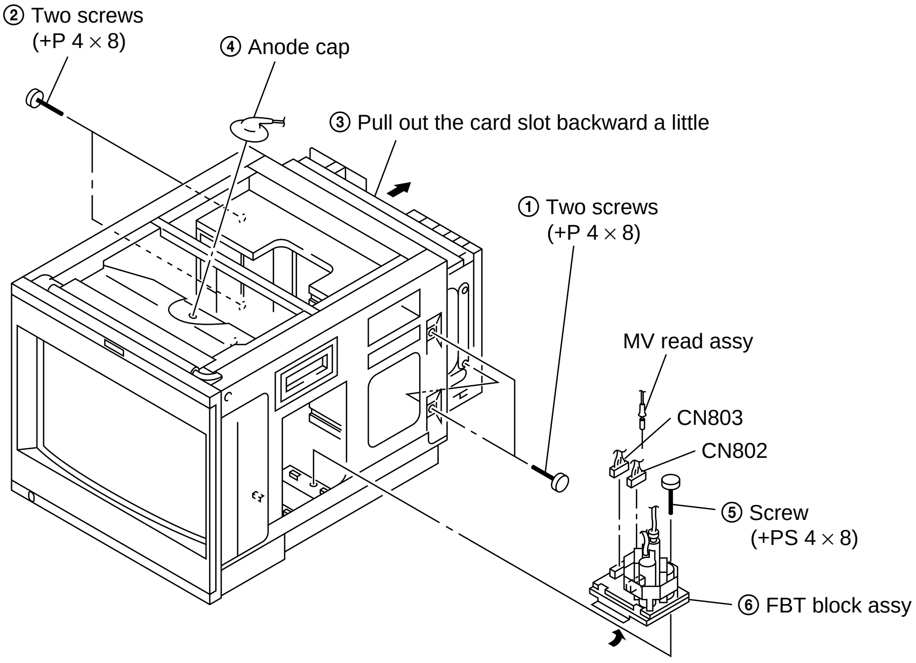
## 2-2-2-1. PA Board Open (20 inch)


② Open PA board in the direction of arrow
① Remove two claws of PWB holder

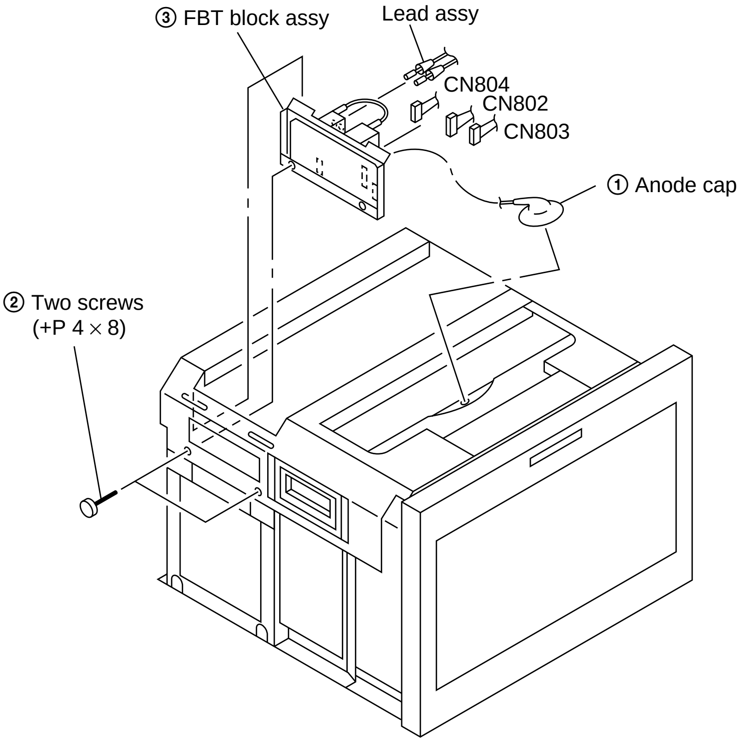
## 2-2-2-2. PA Board Open (24 inch)


① Two screws (+P 4 × 8)
CN905
② Open PA board in the direction of arrow

## 2-2-3-1. FBT Block Assy Removal (20 inch)

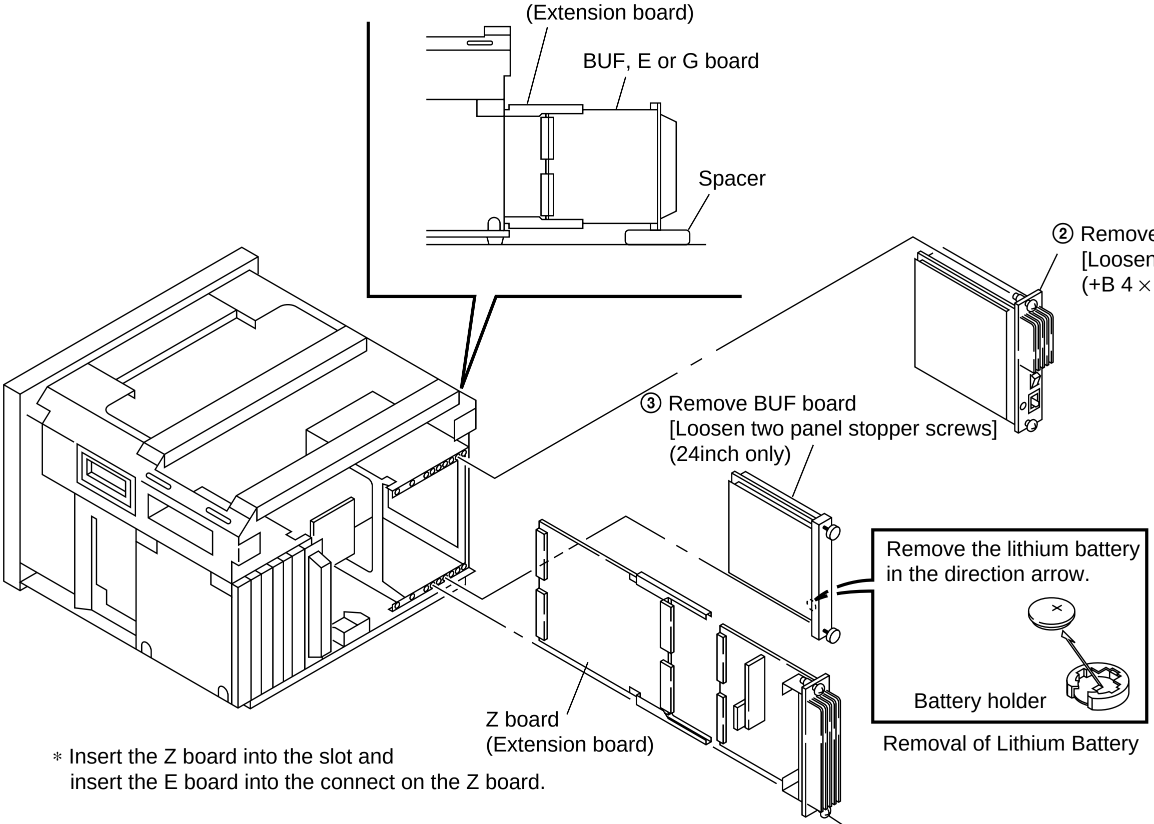

② Two screws
(+P 4 × 8)
④ Anode cap
③ Pull out the card slot backward a little
① Two screws
(+P 4 × 8)
MV read assy
CN803
CN802
⑤ Screw
(+PS 4 × 8)
⑥ FBT block assy

## 2-2-3-2. FBT Block Assy Removal (24 inch)


③ FBT block assy
Lead assy
CN804
CN802
CN803
① Anode cap
② Two screws
(+P 4 × 8)

## 2-2-4. BUF, E and G Boards Removal and Check

Note : The BUF and G boards can be checked in the same way of the E board.


Z board
(Extension board)
BUF, E or G board
Spacer
Battery holder
Z board
(Extension board)

∗ To inspect the respective boards, fix the desired board by placing a spacer under the board as shown.

② Remove G board
[Loosen two screws
(+B 4 × 20)]

③ Remove BUF board
[Loosen two panel stopper screws]
(24inch only)

Remove the lithium battery in the direction arrow.

Removal of Lithium Battery

∗ Insert the Z board into the slot and insert the E board into the connect on the Z board.

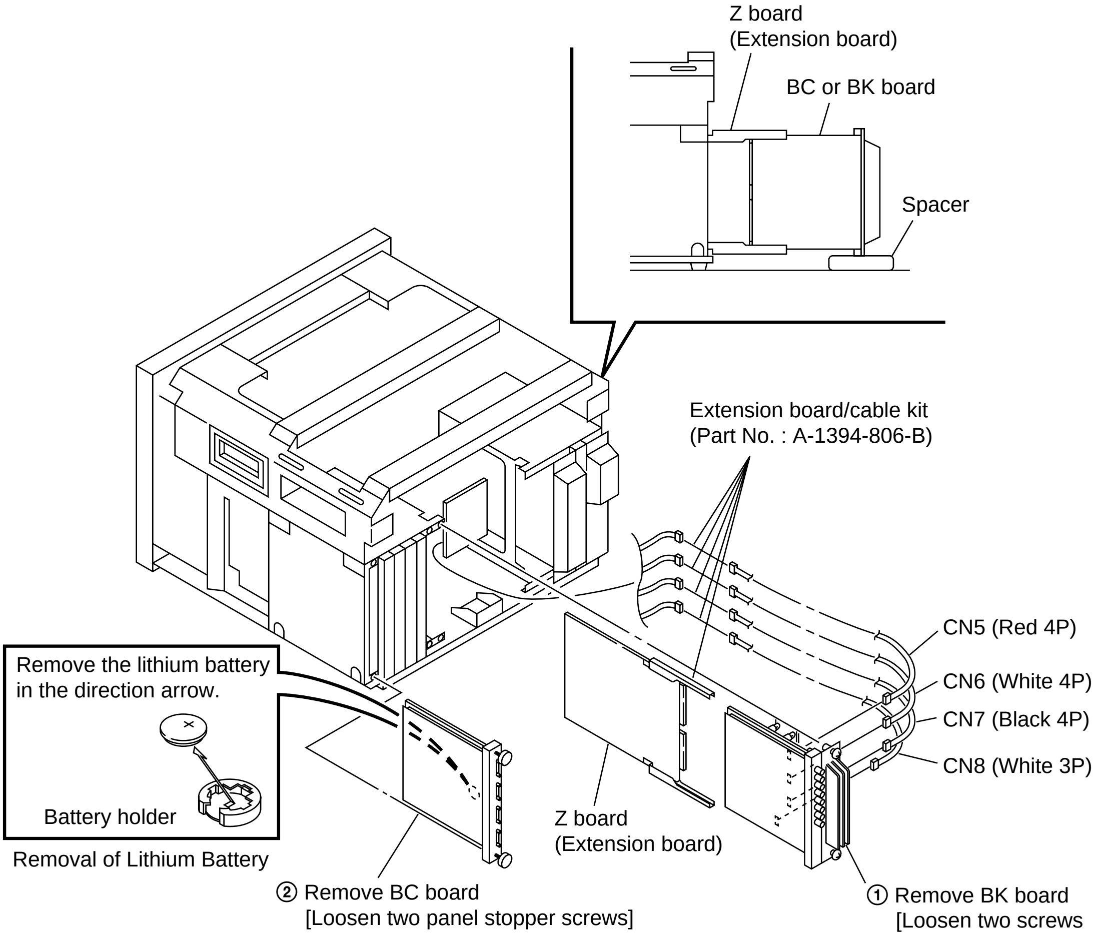
① Remove E board
[Loosen two screws
(+B 4 × 20)]

http://getMANUAL.com

## 2-2-5. BC and BK Boards Removal and Check

Note : The BC board can be checked in the same way of the BK board.

* To inspect the respective boards, fix the desired board by placing a spacer under the board as shown.


Z board
(Extension board)
BC or BK board
Spacer
Extension board/cable kit
(Part No. : A-1394-806-B)
CN5 (Red 4P)
CN6 (White 4P)
CN7 (Black 4P)
CN8 (White 3P)
Remove the lithium battery in the direction arrow.
Battery holder
Z board
(Extension board)

Removal of Lithium Battery

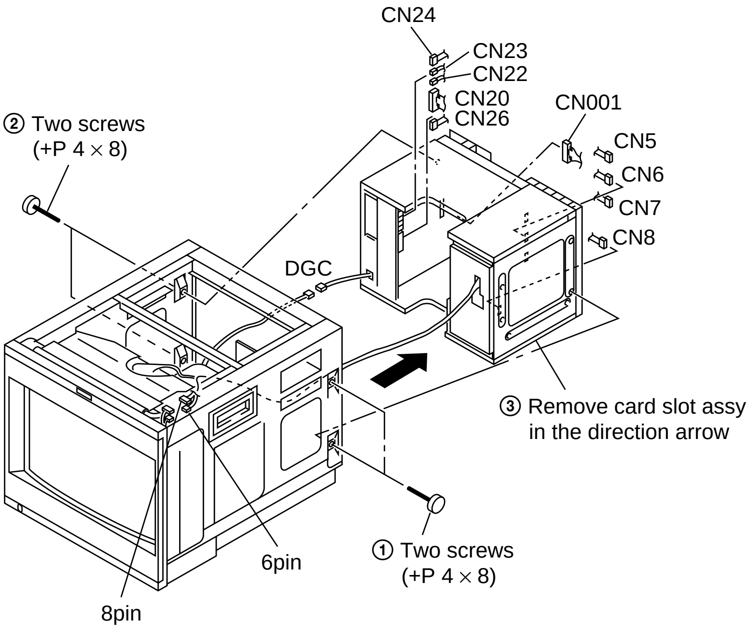
② Remove BC board
[Loosen two panel stopper screws]

① Remove BK board
[Loosen two screws
(+B 4 × 20)]

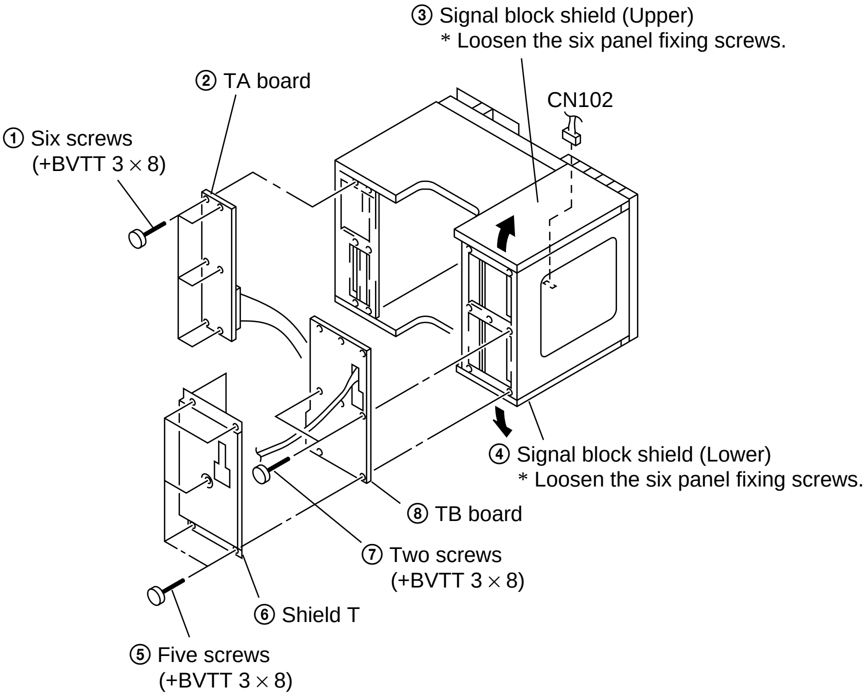
* Insert the Z board into the slot and insert the BK board assy into the connect on the Z board.

Note: When the lithium battery on the BC board is going to be replaced, exchange it within five minutes.

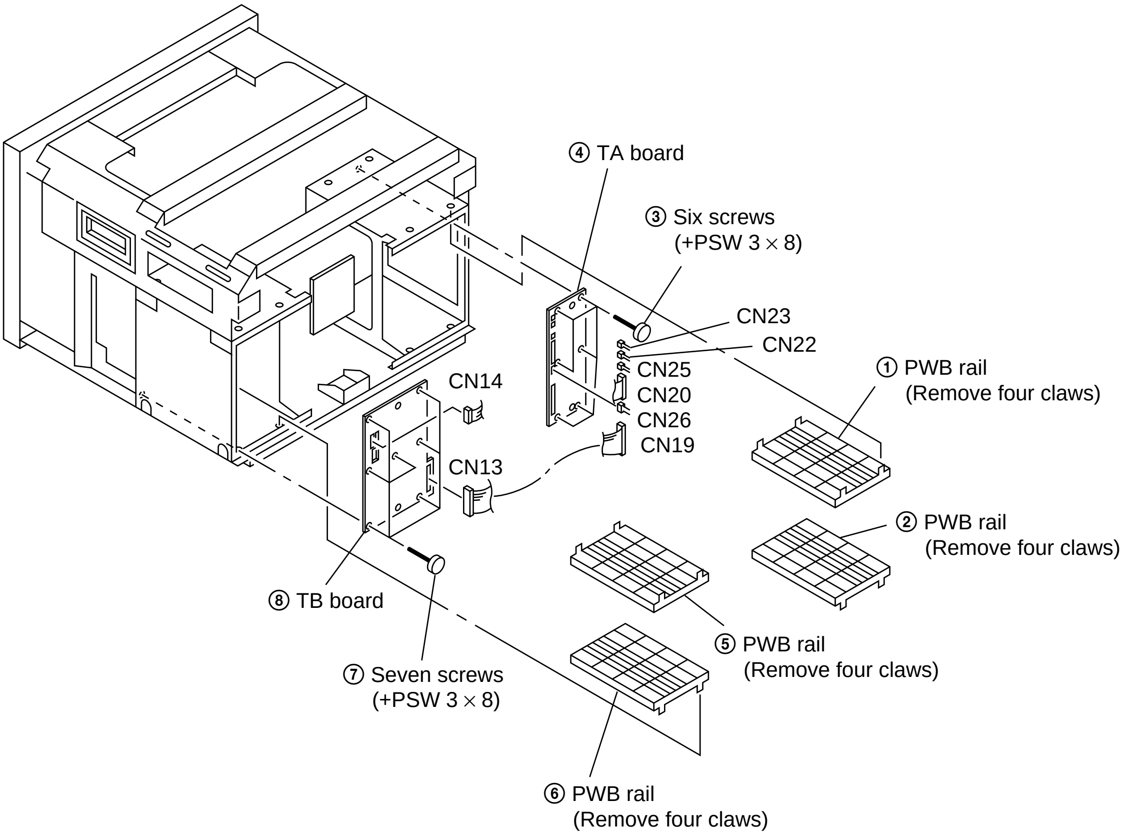
## 2-2-6. Card Slot Assy Removal (20 inch only)


CN24
CN23
CN22
CN20
CN26
CN001
CN5
CN6
CN7
CN8
② Two screws
(+P 4 × 8)
DGC
③ Remove card slot assy
in the direction arrow
① Two screws
(+P 4 × 8)
6pin
8pin

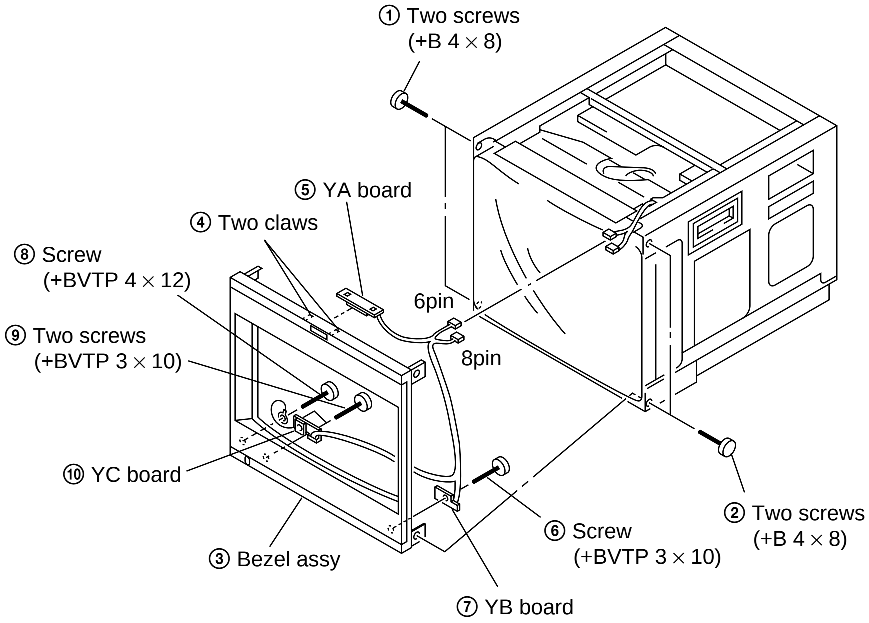
## 2-2-7-1. TA and TB Boards Removal (20 inch)


③ Signal block shield (Upper)
* Loosen the six panel fixing screws.
② TA board
CN102
① Six screws
(+BVTT 3 × 8)
④ Signal block shield (Lower)
* Loosen the six panel fixing screws.
⑧ TB board
⑦ Two screws
(+BVTT 3 × 8)
⑥ Shield T
⑤ Five screws
(+BVTT 3 × 8)

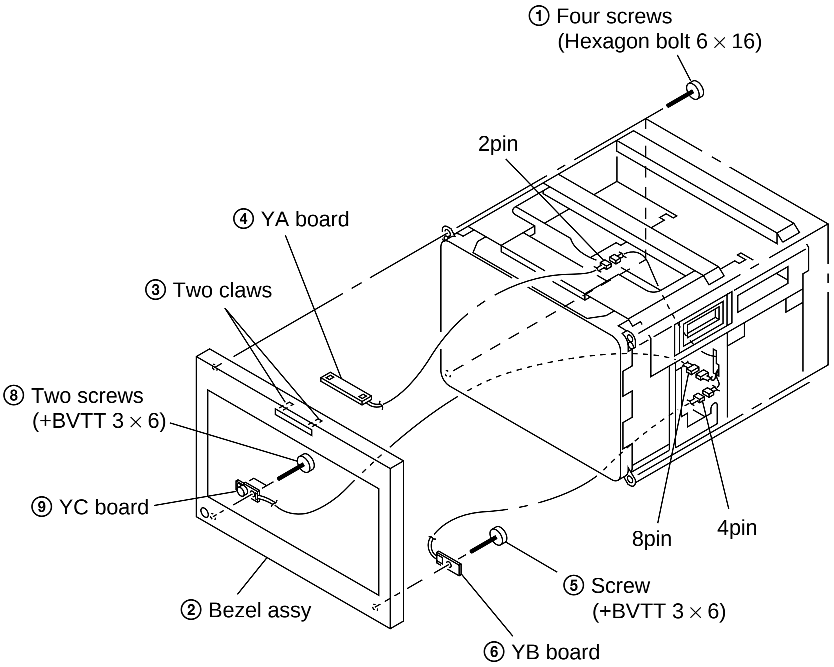
## 2-2-7-2. TA and TB Boards Removal (24 inch)


④ TA board
③ Six screws
(+PSW 3 × 8)
CN23
CN22
CN25
CN20
CN26
CN19
CN14
CN13
① PWB rail
(Remove four claws)
② PWB rail
(Remove four claws)
⑧ TB board
⑤ PWB rail
(Remove four claws)
⑦ Seven screws
(+PSW 3 × 8)
⑥ PWB rail
(Remove four claws)

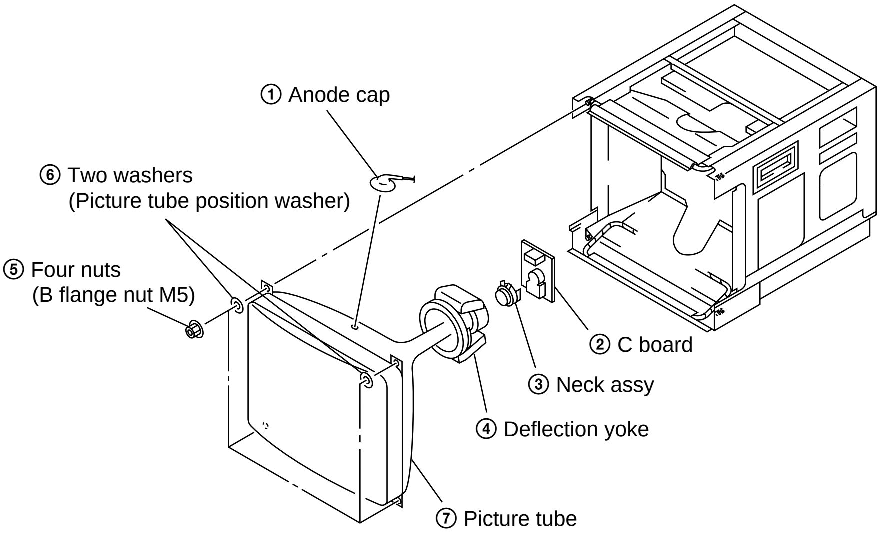
## 2-2-8-1. YA, YB and YC Boards Removal (20 inch)


① Two screws
(+B 4 × 8)
⑤ YA board
④ Two claws
⑧ Screw
(+BVTP 4 × 12)
6pin
⑨ Two screws
(+BVTP 3 × 10)
8pin
⑩ YC board
② Two screws
(+B 4 × 8)
⑥ Screw
(+BVTP 3 × 10)
③ Bezel assy
⑦ YB board

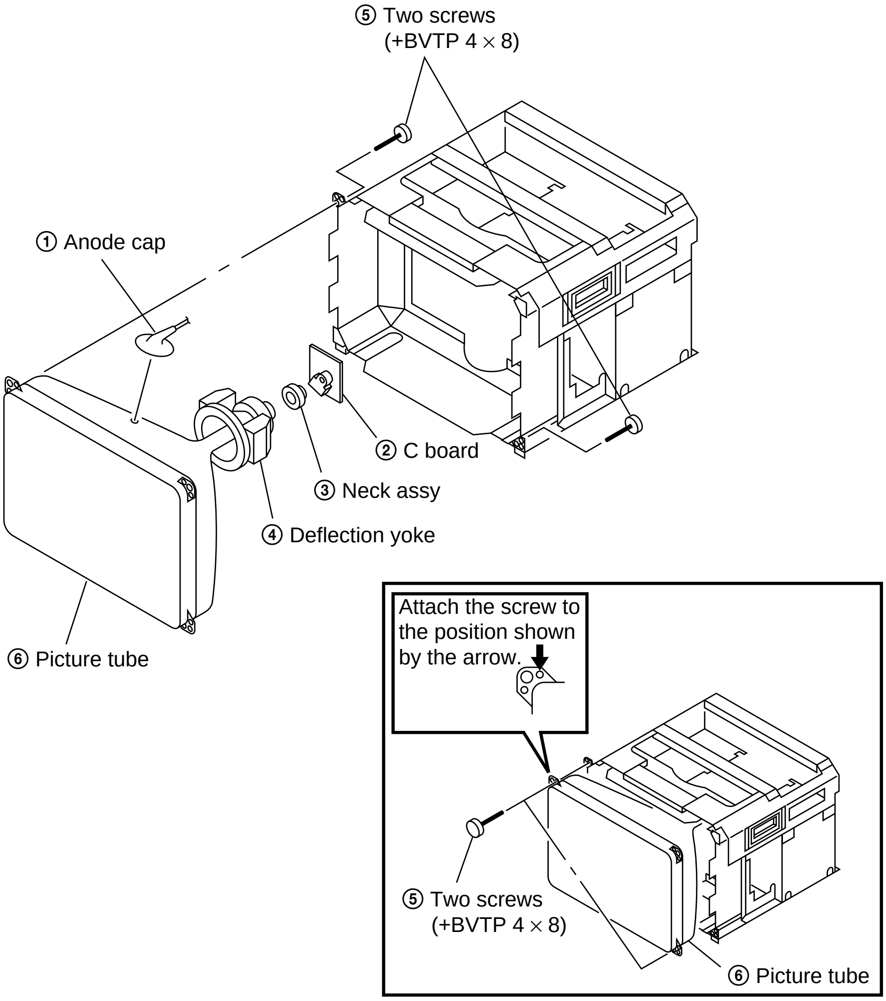
## 2-2-8-2. YA, YB and YC Boards Removal (24 inch)


① Four screws
(Hexagon bolt 6 × 16)
2pin
④ YA board
③ Two claws
⑧ Two screws
(+BVTT 3 × 6)
⑨ YC board
② Bezel assy
8pin
4pin
⑤ Screw
(+BVTT 3 × 6)
⑥ YB board

## 2-2-9-1. Picture Tube Removal (20 inch)


① Anode cap
⑥ Two washers
(Picture tube position washer)
⑤ Four nuts
(B flange nut M5)
② C board
③ Neck assy
④ Deflection yoke
⑦ Picture tube

## 2-2-9-2. Picture Tube Removal (24 inch)

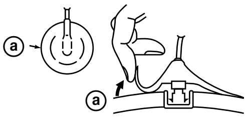

⑤ Two screws
(+BVTP 4 × 8)
① Anode cap
② C board
③ Neck assy
④ Deflection yoke
⑥ Picture tube
Attach the screw to the position shown by the arrow.
⑤ Two screws
(+BVTP 4 × 8)
⑥ Picture tube

∗ To attach the picture tube, use two screws as shown.

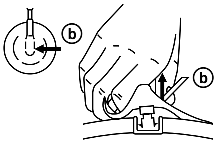
## • REMOVAL OF ANODE CAP

Note: Short-circuit the anode of the picture tube and the anode cap to the metal chassis, picture tube shield or carbon painted on the picture tube, after removing the anode.

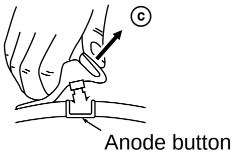
### • Removal Procedure



(1) Turn up one side of the rubber cap in the direction indicated by arrow ⓐ.



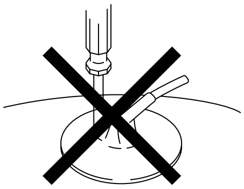
(2) Using a thumb, pull up the rubber cap firmly in the direction indicated by arrow ⓑ.

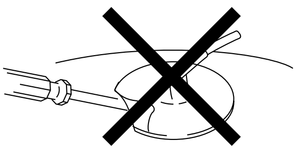

ⓒ
Anode button

(3) When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

### • Handling Precautions

(1) Do not scratch the surface of anode cap with a sharp object.
(2) Do not press the rubber so hard that it damages the inside of anode caps. A shatter-hook terminal is built into the rubber.
(3) Do not turn the foot of the rubber over.
The shatter-hook terminal will stick out or damage the rubber.





# Section 3
# Set-Up Adjustment

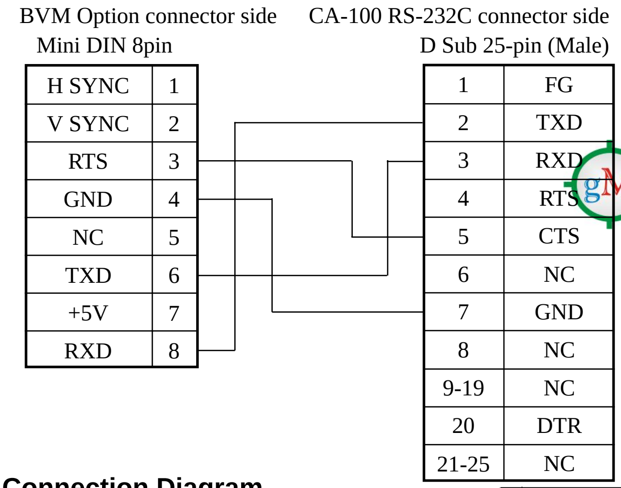
## 3-1. Set-Up Adjustment When CRT is Replaced

This section describes adjustments to be performed when the CRT has been replaced.

### Preparations

- Required tools and measuring instruments

1. Signal generator
   - 1125 (1035) : SMPTE240M standard or BTA S-001A standard
   - 1125 (1080) : SMPTE274M standard
   - 525P : SMPTE293M standard or BTA T-1004 standard
   - 1250 : SMPTE295M standard
2. Oscilloscope
3. Color analyzer (Minolta CA-100)
4. Cables of the following specifications for connecting the CA-100 RS-232C terminal and OPTION terminal of the monitor.



BVM Option connector side
Mini DIN 8pin

| | |
|---|---|
| H SYNC | 1 |
| V SYNC | 2 |
| RTS | 3 |
| GND | 4 |
| NC | 5 |
| TXD | 6 |
| +5V | 7 |
| RXD | 8 |

CA-100 RS-232C connector side
D Sub 25-pin (Male)

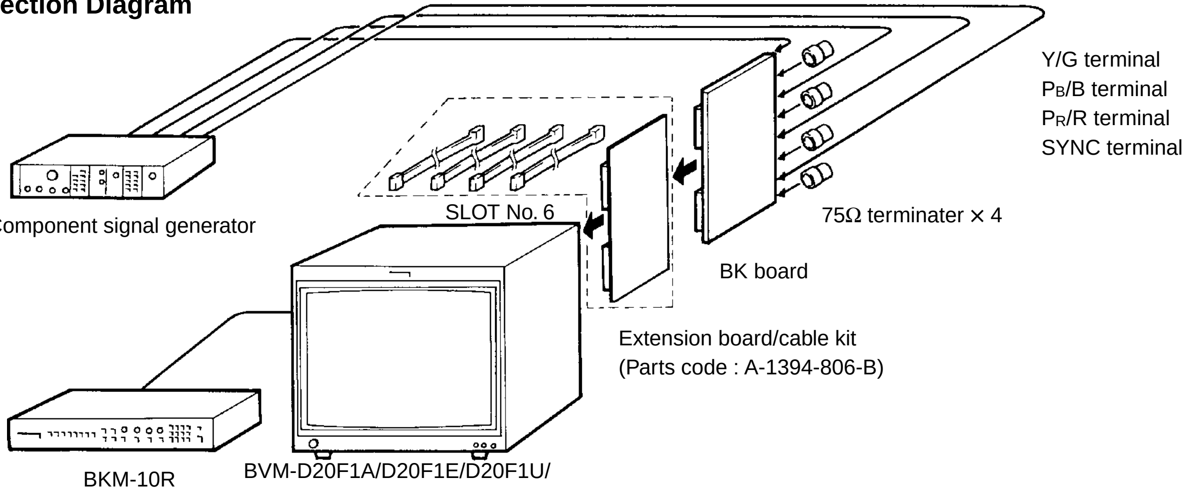
| | |
|---|---|
| 1 | FG |
| 2 | TXD |
| 3 | RXD |
| 4 | RTS |
| 5 | CTS |
| 6 | NC |
| 7 | GND |
| 8 | NC |
| 9-19 | NC |
| 20 | DTR |
| 21-25 | NC |

- Setting the INPUT CONFIGURATION Menu

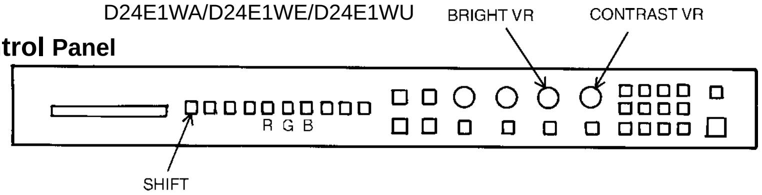
Unless specified otherwise, set the INPUT CONFIGURATION menu of the SETUP menu as follows.

| | |
|---|---|
| FORMAT | YPBPR 1080 |
| SLOT NO | 6 |
| INPUT No. | 1, 2, 3 |
| SYNC MODE | INT |
| SCREEN MODE | 16 : 9 NOR |
| SALF AREA DISPLAY | OFF |
| SALF AREA MODE | 16 : 9–88% |
| APERTURE | OFF |
| APERTURE VALUE | 100 |
| CHANNEL NAME | PROG |
| CONTROL | CH SET |
| COLOR TEMP | STD |
| H PHASE | 000 |

- **Connection Diagram**


Y/G terminal
PB/B terminal
PR/R terminal
SYNC terminal
Component signal generator
SLOT No. 6
75Ω terminater × 4
BK board
Extension board/cable kit
(Parts code : A-1394-806-B)
BKM-10R
BVM-D20F1A/D20F1E/D20F1U/
D24E1WA/D24E1WE/D24E1WU

**BKM-10R Control Panel**


BRIGHT VR
CONTRAST VR
R G B
SHIFT

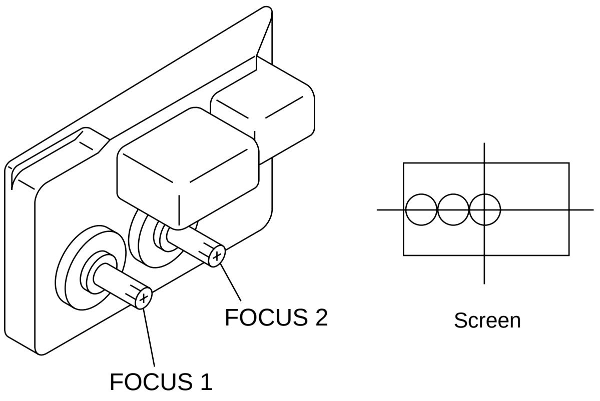
## [Focus Adjustment]

1. Input the HD (1125) cross-hatch signal.
2. Set the following DF adjustment data to the preset value (128).
   DF SIDE
   DF CORNER
   DF SIDE PHASE
   DF T&B PHASE
   DF T&B

Note: The above adjustment menu is located inside the E BOARD menu of the MAINTENANCE menu.

3. Obtain the best focus at the center of screen by adjusting the Focus 1/F2 (vertical direction focus adjustment) and the Focus 2/F2 (horizontal direction focus adjustment) as shown in Fig. 1-1 while maintaining the focus at the three points in the left.
4. Connect the MODE1 1080 cross-hatch signal to the input.
5. While the best focus is maintained by Focus 2/F1 (focus tracking), the horizontal resolution better than the specifications must be visually recognized.
   20 inch : 900 TV lines or more
   24 inch : 1000 TV lines or more
6. Adjust the following DF adjustment data so that the cross-hatch lines in the vicinity of the screen are as thick as the lines at the center of the screen.
   DF SIDE
   DF SIDE PHASE
   DF CORNER
   DF T&B
   DF T&B PHASE
7. Adjust the DF data in the same way in the following modes.

- 20 inch



- 24 inch

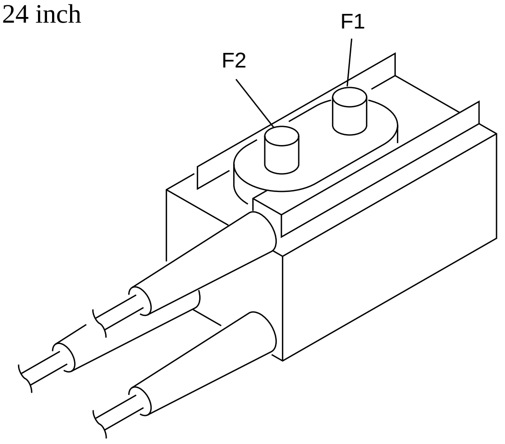


Fig. 1-1

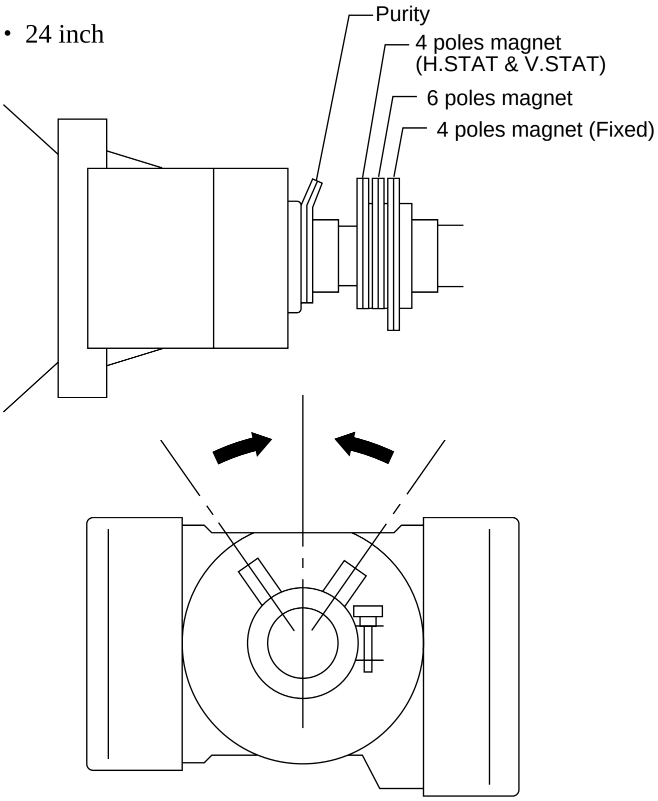
| | | | | |
|---|---|---|---|---|
| MODE1 | 1080/60i (33kHz) | 16 : 9 | NORMAL MODE | Perform the steps 3 to 6 adjustments. |
| MODE2 | 1125 | 16 : 9 | UNDER SCAN MODE | Copy the MODE1 data. |
| MODE3 | 1035/60i (33kHz) | 16 : 9 | NORMAL MODE | |
| MODE4 | 1125 | 16 : 9 | UNDER SCAN MODE | |
| MODE5 | 720/60P (45kHz) | 16 : 9 | NORMAL MODE | Input the 720 signal, and perform the step 6 adjustments. |
| MODE6 | 720/60P (45kHz) | 16 : 9 | UNDER SCAN MODE | Copy the MODE5 data. |
| MODE7 | 480/60P (31kHz) | 16 : 9 | NORMAL MODE | Copy the MODE1 data. |
| MODE8 | 525 | 16 : 9 | UNDER SCAN MODE | |
| MODE9 | 525 | 4 : 3 | NORMAL MODE | |
| MODE10 | 525 | 4 : 3 | UNDER SCAN MODE | |
| MODE11 | 480/60P (15kHz) | 16 : 9 | NORMAL MODE | Input the 480 signal, and perform the step 6 adjustments. |
| MODE12 | 525 | 16 : 9 | UNDER SCAN MODE | Copy the MODE11 data. |
| MODE13 | 525 | 4 : 3 | NORMAL MODE | |
| MODE14 | 525 | 4 : 3 | UNDER SCAN MODE | |
| MODE15 | 1080/48i (27kHz) | 16 : 9 | NORMAL MODE | Copy the MODE1 data. |
| MODE16 | 1125 | 16 : 9 | UNDER SCAN MODE | |

## [Landing Adjustment]

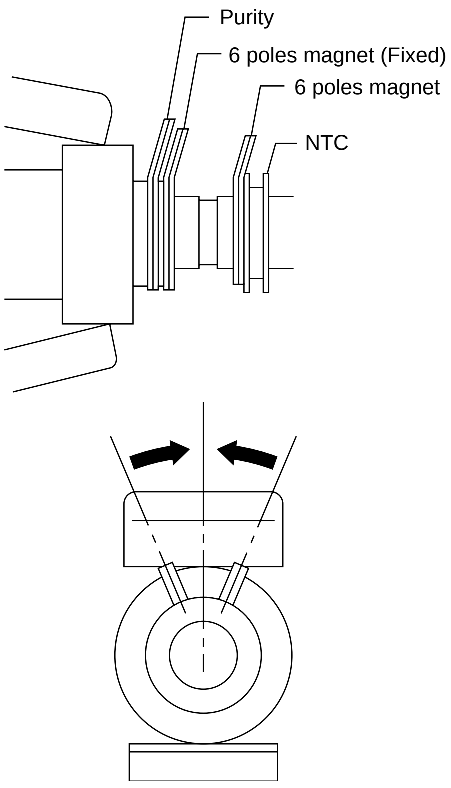
Note: When the DY position setting adjustment is going to be performed, set the ROTATION (20 inch) or ROTATION2 (24 inch) to 128. Set the LCC switch to OFF (0) (24 inch). Set the digital uniformity DU to OFF (0) (24 inch). Perform all these settings before starting the DY position setting adjustment. The ROTATION and the LCC switch are located in the lower layer of the E board of MAINTENANCE. DU ON/OFF is located in the lower layer of the BUF board.

1. Input the white signal.
2. Press the BRIGHTNESS VR button and CONTRAST VR button to set both into the PRESET state. (The LED (Green) on the buttons will go off.) Press the SHIFT button and the 16:9 button of the FUNCTION button to select the 16:9 mode (24 inch) 4:3 mode (20 inch).
3. Allow the aging of 30 to 60 minutes with luminance of 100 dc/m2.
4. Confirm that ROTATION2 (24 inch) remains in the center value 128 using the ALIGNMENT menu of the SET UP menu.
5. Direct the CRT screen in the direction of east (or west). Press the DEGAUSS button.
6. Set the Purity knob in its mechanical center.

- 24 inch



- 20 inch



7. Push the DY (deflection york) to the front as much as possible.
8. Fix the neck assembly at the position shown in Fig. 1-3.

• 24 inch • 20 inch

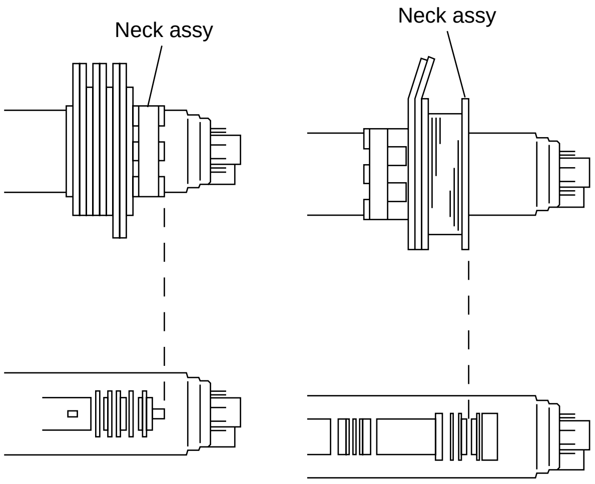

Neck assy
Neck assy

Fig. 1-3

9. Adjust the screen to green color only. [Turn ON the SHIFT button (orange LED lights up), and turn ON the R and B buttons (LED lights up)].
10. Adjust the Purity knob so that green comes to the center of screen as shown in Fig. 1-4.

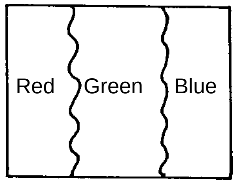
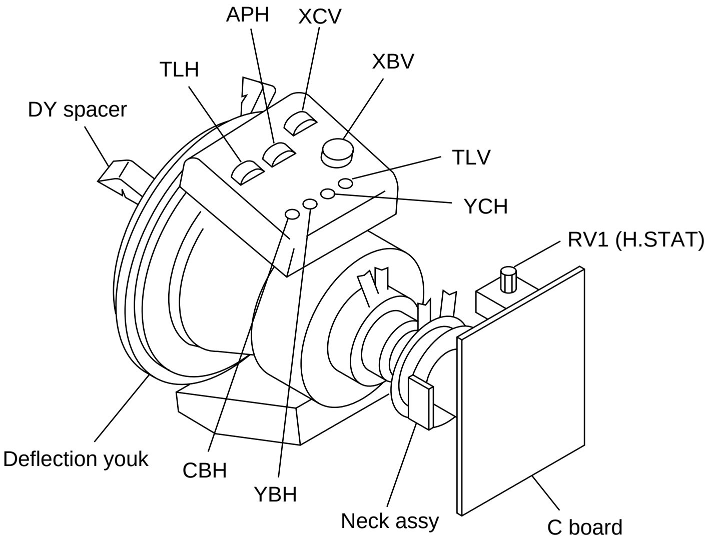

Red
Green
Blue

Fig. 1-4

11. Move the DY back until the whole screen becomes green only.
12. Adjust the DY tilt using the cross-hatch signal, and tighten the DY tightening screw.
13. Adjust the up/down DY twist adjustment in vertical direction while observing the vertical pin cushion signal.
14. Adjust the DY neck twist adjustment in horizontal direction while observing the horizontal trapezoidal signal.
(The adjustment sensitivity for the horizontal trapezoidal signal is very poor. Be careful not to adjust the DY inclination too excessively so as to adversely affect the convergence.)
15. Fix the deflection yoke using the four DY spacers. (Confirm DY inclination and the DY position in the front and rear directions.)

• 20 inch


APH
XCV
TLH
XBV
DY spacer
TLV
YCH
RV1 (H.STAT)
Deflection youk
CBH
YBH
Neck assy
C board

• 24 inch

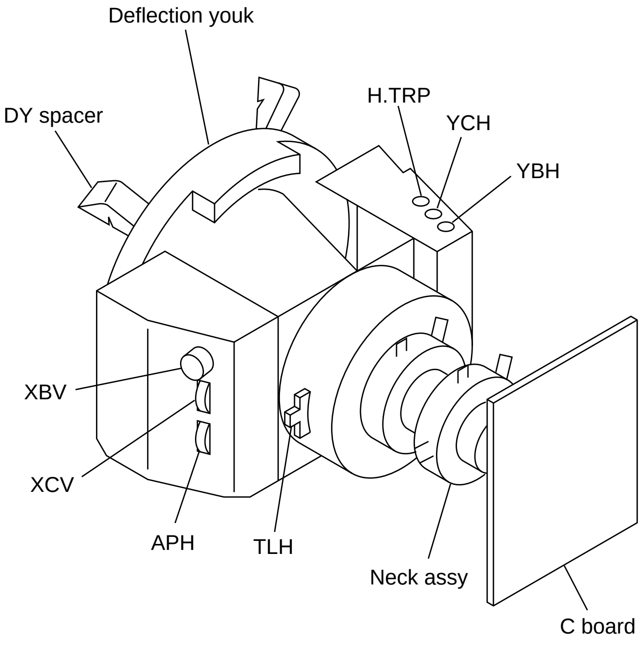

Deflection youk
DY spacer
H.TRP
YCH
YBH
XBV
XCV
APH
TLH
Neck assy
C board

Fig. 1-5

- Final check
  After the adjustment is complete, confirm that the landing error does not occur even the BVM monitor is directed in all directions of east, west, north and south. Return the LCC and DU to their ON positions.

16. LCC adjustment (24 inch only)

(1) Adjust the landing at all four corners with LCC. (White uniformity)

(2) Confirm that "LCC LT", "LCC LB" "LCC RT" and "LCC RB" are all in the pre-set values (128).

(3) Check in which direction the CRT screen is directed. Adjust the direction using "LCC DIR".

(4) Change the signal to the R then G the B. Check landing at the corners when each single color is displayed and at white screen. When the color purity is poor at the any corners, adjust "LCC LT", "LCC LB" "LCC RT" and "LCC RB" so that the landing at all corners is optimum.
When the adjustment is complete, save the adjustment data and fix the purity magnet with white paint.

Note: Use the Auto Setup Probe (BKM-14L) as much as possible and perform the automatic adjustment.

http://getMANUAL.com

## [H Blanking Adjustment]

- Preparations

1. Connect a signal generator and connect the HD (1125) cross-hatch signal to the input. Set the CRT screen to all black display.

Note: The following adjustment menu is located inside the E BOARD menu of the MAINTENANCE menu.
H BLK LEFT
H BLK RIGHT
H CENTER
H PHASE
H SIZE

- 1080/60i (33 kHz) 16:9 NORMAL mode horizontal blanking adjustment

1. Select 1080 16:9 NORM of the SCREEN mode using the INPUT CONFIGURATION menu of the SETUP menu.
2. Connect the MODE1 1080/60i (33 kHz) cross-hatch signal to the input.
3. Adjust the H. BLK. LEFT data to the minimum (0). Adjust the H. BLK. RIGHT data to the maximum (255).
4. Adjust BRIGHT to its maximum.
5. Reduce the H. SIZE so that the left-most end and the right-most end of raster are visible without any lacking.
6. Adjust the H. CENTER data so that the raster comes to the center of the effective screen (A≒ B is obtained.) (Fig. 1-6)
   When this adjustment is complete, take note of the H. CENTER adjustment data.
7. Adjust the H. SIZE so that the effective screen of the raster is 10 mm smaller both in the right and the left.
8. Set BRIGHT to the normal position.
9. Adjust the H. PHASE data so that the signal comes to the center of the raster (C≒D is obtained.)
   When this adjustment is complete, take note of the H. CENTER adjustment data.
10. Adjust BRIGHT to its maximum.
11. Adjust the H. BLK. LEFT data so that the blanking is position at 6 mm outside the left-most end of the cross-hatch signal area. (Fig. 1-7.)
    When this adjustment is complete, take note of the H. BLK. LEFT adjustment data.
12. Adjust the H. BLK. RIGHT data so that the blanking is position at 3 mm outside the right-most end of the cross-hatch signal area. (Fig. 1-7.)

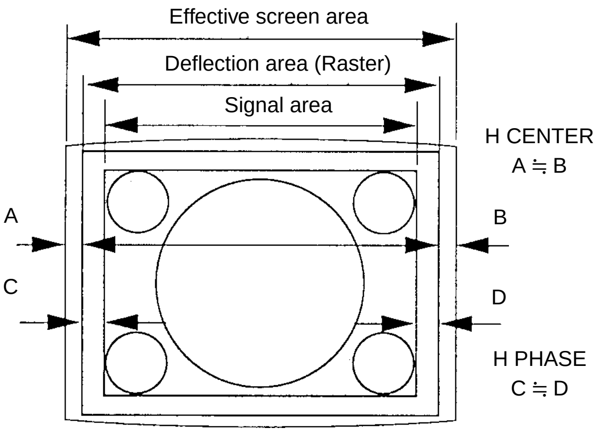


Fig. 1-6

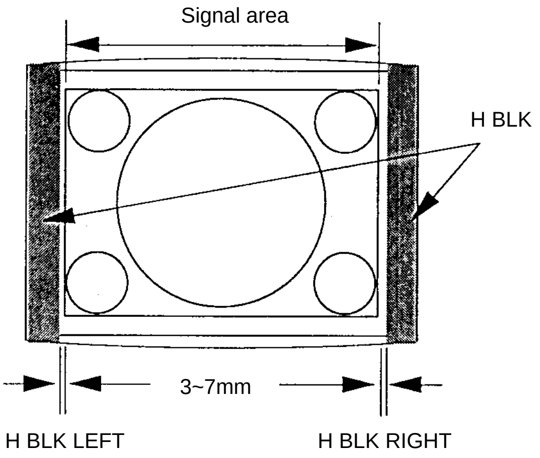


Fig. 1-7

13. H CENTER
    H PHASE
    H BLK PHASE
    H BLK WIDTH
    Copy the above data to the following mode.

| | | | |
|---|---|---|---|
| MODE2 | 1125 | 16:9 | UNDER SCAN |
| MODE3 | 1035/60i (33kHz) | 16:9 | NORMAL |
| MODE4 | 1125 (1035) | 16:9 | UNDER SCAN |

- 720/60P (45 kHz) 16:9 NORMAL Mode H Blanking Adjustment

1. Set SCREEN MODE to 720P 16:9 NORM at the INPUT CONFIGURATION menu of the SETUP menu.
2. Connect the MODE5 720/60P (45 kHz) cross-hatch signal to the input.
3. Adjust the H. CENTER, H. PHASE, H. BLK. LEFT and H. BLK. RIGHT data in the same manner as steps 3 to 12 in the 1080/60i (33 kHz) 16:9 NORMAL mode.
4. Adjust the H. BLK. LEFT data so that the blanking is position at 7 mm outside the left-most end of the cross-hatch signal area. (Fig. 1-7.)
5. Adjust the H. BLK. RIGHT data so that the blanking is position at 7 mm outside the right-most end of the cross-hatch signal area. (Fig. 1-7.)
6. H CENTER
   H PHASE
   H BLK LEFT
   H BLK RIGHT
   Copy the above data to the following mode.
   MODE6 16:9 UNDER SCAN

- 480/60P (31 kHz/15 kHz) 16:9 NORMAL mode horizontal blanking adjustment

1. Select 480 16:9 NORM of the SCREEN mode using the INPUT CONFIGURATION menu of the SETUP menu.
2. Connect the MODE7/MODD11 480/60P (31 kHz/15 kHz) cross-hatch signal to the input.
3. Adjust the H. CENTER, H. PHASE, H. BLK. LEFT and H. BLK. RIGHT data in the same manner as steps 3 to 12 of the 1080/60i (33 kHz) 16:9 NORMAL mode.
4. Adjust the H. BLK. LEFT data so that the blanking is position at 7 mm outside the left-most end of the cross-hatch signal area. (Fig. 1-7.)
   When this adjustment is complete, take note of the H. BLK. LEFT adjustment data.
5. Adjust the H. BLK. RIGHT data so that the blanking is position at 7 mm outside the right-most end of the cross-hatch signal area. (Fig. 1-7.)
   When this adjustment is complete, take note of the H. BLK. RIGHT adjustment data.
6. H CENTER
   H PHASE
   H BLK LEFT
   H BLK RIGHT
   Copy the above-described data to the following modes.

| | | | |
|---|---|---|---|
| MODE8/MODE12 | 525 | 16:9 | UNDER SCAN |
| MODE9/MODE13 | | 4:3 | NORMAL |
| MODE10/MODE14 | | 4:3 | UNDER SCAN |

- 1080/48i (27 kHz) 16:9 NORMAL mode horizontal blanking adjustment

1. Select 1080 16:9 NORM of the SCREEN mode using the INPUT CONFIGURATION menu of the SETUP menu.
2. Connect the MODE15 1080/48i (27 kHz) cross-hatch signal to the input.
3. Adjust the H. CENTER, H. PHASE, H. BLK. LEFT and H. BLK. RIGHT data in the same manner as steps 3 to 12 of the 1080/60i (33 kHz) 16:9 NORMAL mode.
4. Adjust the H. BLK. LEFT data so that the blanking is position at 7 mm outside the left-most end of the cross-hatch signal area. (Fig. 1-7.)
   When this adjustment is complete, take note of the H. BLK. LEFT adjustment data.
5. Adjust the H. BLK. RIGHT data so that the blanking is position at 7 mm outside the right-most end of the cross-hatch signal area. (Fig. 1-7.)
   When this adjustment is complete, take note of the H. BLK. RIGHT adjustment data.
6. H CENTER
   H PHASE
   H BLK LEFT
   H BLK RIGHT
   Copy the above-described data to the following modes.

| | | | |
|---|---|---|---|
| MODE16 | 1125 | 16:9 | UNDER SCAN |

## [Linearity Adjustment]

Note: The following adjustment menu is located inside the E BOARD menu of the MAINTENANCE menu.

V CENTER
H LIN BAL
H LIN
V LIN BAL
H KEY BAL
H KEY
H PIN BAL
H PIN
H CENTER BOW
H MID PIN
H CORNER PIN
V SIZE
H LINE
V LIN
H CENTER

1. Input the HD (1125) cross-hatch signal.
2. Select the 16:9 NORM of the SCREEN mode using the INPUT CONFIGURATION menu of the SETUP menu.
3. Confirm that there exists no DY inclination, no V PIN cushion distortion in the top and bottom and no horizontal trapezoidal distortions on screen. If there exits any errors, remove the errors as follows.
   DY inclination :
   Adjust the DY inclination
   V PIN cushion distortion in the top and bottom:
   DY up/down neck twist
   Horizontal trapezoidal distortion :
   Adjust by H. TRP VR of the DY (24 inch)
   Adjust by TLV VR of the DY (20 inch)
   (If they are adjusted extremely, the convergence can be adversely affected. In such a case, select the green single color for this adjustment.)
4. Input the HD (1125) monoscope signal.
5. Adjust the H CENTER data and adjust the horizontal center of the image.
6. Adjust the V CENTER data and adjust the vertical center of the image.
7. Input the HD (1125) cross-hatch signal.
8. Adjust the VSIZE, V LIN BAL, and V LIN data as shown in Fig. 1-8.

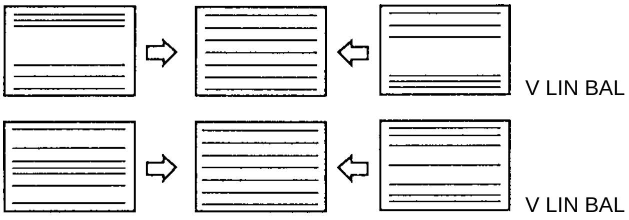


Fig. 1-8

9. Adjust the H SIZE, H LIN BAL, and H LIN data as shown in Fig. 1-9.

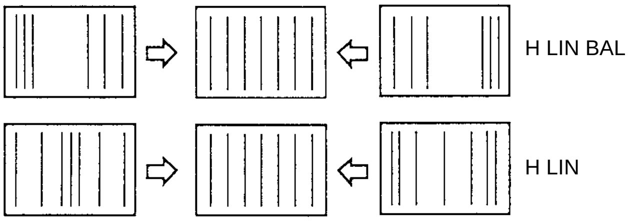


Fig. 1-9

10. Adjust the H KEY BAL, H KEY, H PIN BAL, and H PIN data so that the trapezoid distortion and PIN distortion at the side disappear as shown in Fig. 1-10.
11. Adjust the H CENTER BOW, H MID PIN, and H CORNER PIN data as shown in Fig. 1-11.
12. Repeat the above adjustments and optimize the horizontal and vertical linearities.
13. Change the SCREEN MODE for the following modes as well, and perform adjustments in the same way.

| | | | |
|---|---|---|---|
| MODE2 | 1125 | 16:9 | UNDER SCAN |
| MODE3 | 1035/60i (33kHz) | 16:9 | NORMAL |
| MODE4 | 1125 | 16:9 | UNDER SCAN |
| MODE7 | 480/60P (31kHz) | 16:9 | NORMAL |
| MODE8 | 525 | 16:9 | UNDER SCAN |
| MODE9 | 525 | 4:3 | NORMAL |
| MODE10 | 525 | 4:3 | UNDER SCAN |
| MODE15 | 1080/84i (27kHz) | 16:9 | NORMAL |
| MODE16 | 1125 | 16:9 | UNDER SCAN |

- The items that are common in different modes.

| | |
|---|---|
| DY inclination<br>Up/down V PIN distortion<br>H. CENTER. BOW<br>H. MID. PIN<br>H. CORNER PIN | Copy the data of MODE1 1080/60i (33 kHz) 16:9 NORM. |

- The items that are different in different modes.
  H. TRP (24 inch)
  TLV VR (20 inch)
  V CENTER
  H LIN BAL
  H LIN
  V LIN BAL
  H KEY BAL
  H KEY
  H PIN BAL
  H PIN
  V SIZE
  H SIZE
  V LIN
  H CENTER

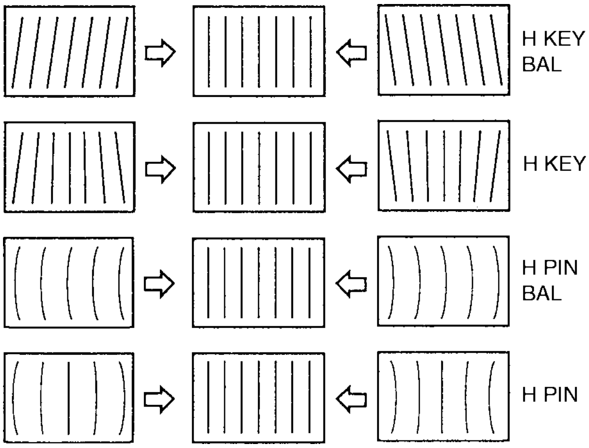


Fig. 1-10

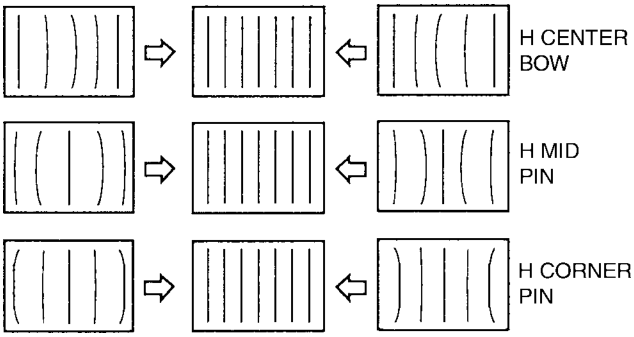


Fig. 1-11

14. Connect the MODE5 720/60P (45 kHz) signal to the input.
15. Set SCREEN MODE to 16:9 NORM at the INPUT CONFIGURATION menu of the SETUP menu.
16. Perform the adjustments of steps 3 to 12.
17. Change the SCREEN MODE of the following modes as well, and perform adjustments in the same way.
    MODE6 720/60p 45kHz 16:9 UNDER SCAN
    - Common items for modes
      DY inclination
      Up/down V PIN distortion
      H CENTER BOW
      H MID PIN
      H CORNER PIN

      Copy the data of MODE5 720/60P (45 kHz) 16:9 NORM.

    - Items differing between modes
      H TRP (24 inch)
      TLV (20 inch)
      V CENTER
      H LIN BAL
      H LIN
      V LIN BAL
      H KEY BAL
      H KEY
      H PIN BAL
      H PIN
      V SIZE
      H SIZE
      V LIN
      H CENTER

18. Connect the MODE11 480/60P (15 kHz) signal to the input.
19. Set SCREEN MODE to 16:9 NORM at the INPUT CONFIGURATION menu of the SETUP menu.
20. Perform the adjustments of steps 3 to 12.
21. Change the SCREEN MODE of the following modes as well, and perform adjustments in the same way.

| | | | |
|---|---|---|---|
| MODE12 | 525 | 16:9 | UNDER SCAN |
| MODE13 | 525 | 4:3 | NORMAL |
| MODE14 | 525 | 4:3 | UNDER SCAN |

- Common items for modes
  DY inclination
  Up/down V PIN distortion
  H CENTER BOW
  H MID PIN
  H CORNER PIN

  Copy the data of MODE11 480/60P (15 kHz) 16:9 NORM.

- Items differing between modes
  H TRP (24 inch)
  TLV (20 inch)
  V CENTER
  H LIN BAL
  H LIN
  V LIN BAL
  H KEY BAL
  H KEY
  H PIN BAL
  H PIN
  V SIZE
  H SIZE
  V LIN
  H CENTER

## [Convergence Adjustment]

- Preparations

1. Set SCREEN MODE to 16:9 NORM at the INPUT CONFIGURATION menu of the SETUP menu.
2. Input the HD (1125) cross-hatch signal.
3. Set the 4-pole magnet of the DY to the OFFSET state in the case of 24 inch monitor.
   Confirm that the H. STAT data is in the pre-set value (128) and the V. STAT data is also in the pre-set value (128).
   Set the user's menu ALIGNMENT V. STATIC CONV., V. CONV. TOP., V. CONV. BOT, and H. STATIC CONV. to 100. (In both 20- and 24 inch monitors)
   In the case of the 20 inch monitor, set the 6-pole magnet of the DY to the OFFSET state.
   Confirm that the H. STAT data is in the pre-set value (128) and the V. STAT data is also in the pre-set value (128).

Note: The V. STATIC CONV. adjustment menu is located in the lower layer of the E board menu of the MAINTENANCE menu.

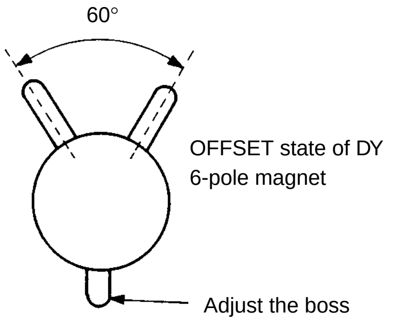


**Fig. 1-12**

- HMC and VMC correction by the 6-pole magnet

1. HMC (horizontal mis-convergence) correction by the 6-pole magnet and movement electronic beam

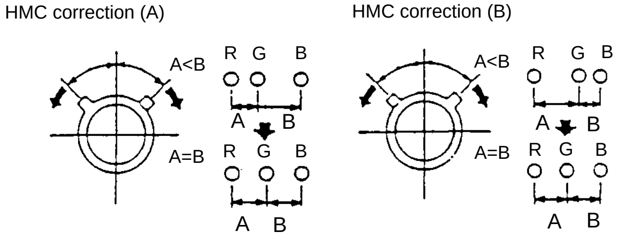

HMC correction (A)
HMC correction (B)

**Fig. 1-13**

2. Correction of 6-pole magnet VMC (vertical mis-convergence) and movement of electronic beam

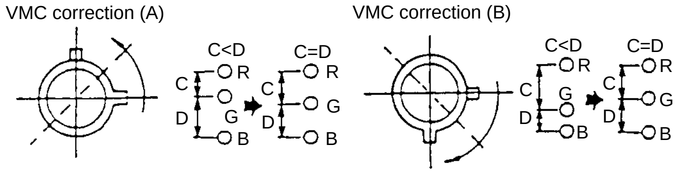

VMC correction (A)
VMC correction (B)

**Fig. 1-14**

## [Static Convergence Adjustment]

- Horizontal static convergence

1. Adjust RV1 (H. STAT) of the C board (20 inch) or the 4-pole magnet and the 6-pole magnet (24 inch) of the neck assembly until the red and green dots are aligned in the horizontal direction at the center of screen.
2. If the blue dots are mis-aligned against the red and green dots, adjust as follows.
   - In the case of 24 inch monitor
     Adjust the HMC (horizontal mis-convergence) correction using the 6-pole magnet of the neck assembly. (Refer to Fig. 1-2.)

- Vertical static convergence

1. Adjust the V. STATIC CONV. data (20 inch) or the 4-pole magnet and the 6-pole magnet (24 inch) of the neck assembly until the red and green dots are aligned in the vertical direction at the center of screen.

Note: The V. STATIC CONV. adjustment menu is located in the lower layer of the E board menu of the MAINTENANCE menu.

2. If the blue dots are mis-aligned against the red and green dots, adjust as follows.
   - In the case of 24 inch monitor
     Adjust the VMC (vertical mis-convergence) correction using the 6-pole magnet of the neck assembly. (Refer to Fig. 1-2.)

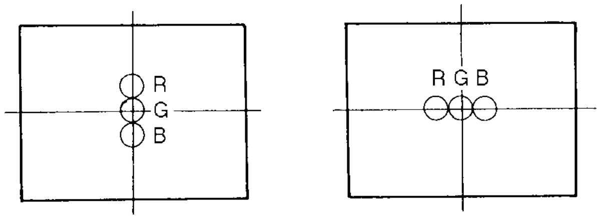


**Fig. 1-15**

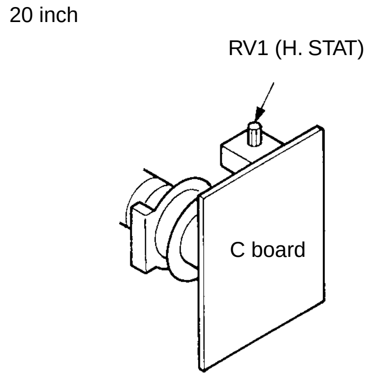


**Fig. 1-16**

## [20 inch Convergence Adjustment]

- Preparation

1. Select the 16:9 NORM of the SCREEN mode using the INPUT CONFIGURATION menu of the SETUP menu.
2. Connect the MODE13 480/60i (15 kHz) cross-hatch signal to input.

- Convergence adjustment

1. Minimize the vertical mis-convergence in the center at the left-most end and at the right-most end of screen using the DY correction reactors XBV and XCV.
   * Because TLV is used for horizontal trapezoidal distortion adjustment, adjust the convergence while maintaining the correct adjustment of the horizontal trapezoidal distortion correction only when MSV is extremely poor.
2. Minimize the horizontal mis-convergence in the top and the bottom of screen using the DY correction reactors YBH and YCH.
3. Minimize the mis-convergence at the left-most end and at the right-most end of screen using the DY correction reactors APH, TLH and CBH.
4. Adjust the V. STAT BOTTOM data then adjust the V. STAT TOP data in this order so that the vertical mis-convergence in the top and bottom of screen.
   (Keep the V.STAT data to be 128, and do not change it to any data other than 128.)

Note: The V. STATIC BOTTOM and the V. STAT. TOP adjustment menus are located in the lower layer of the E board menu of the MAINTENANCE menu.

5. If there exists any left-to-right asymmetrical areas, insert the TLH correction plate into DY and so that the mis-convergence is minimized.)
6. Copy the respective adjustment data into all modes. Then confirm the vertical and horizontal convergence again. If any mis-convergence is noticed, adjust the convergence again.

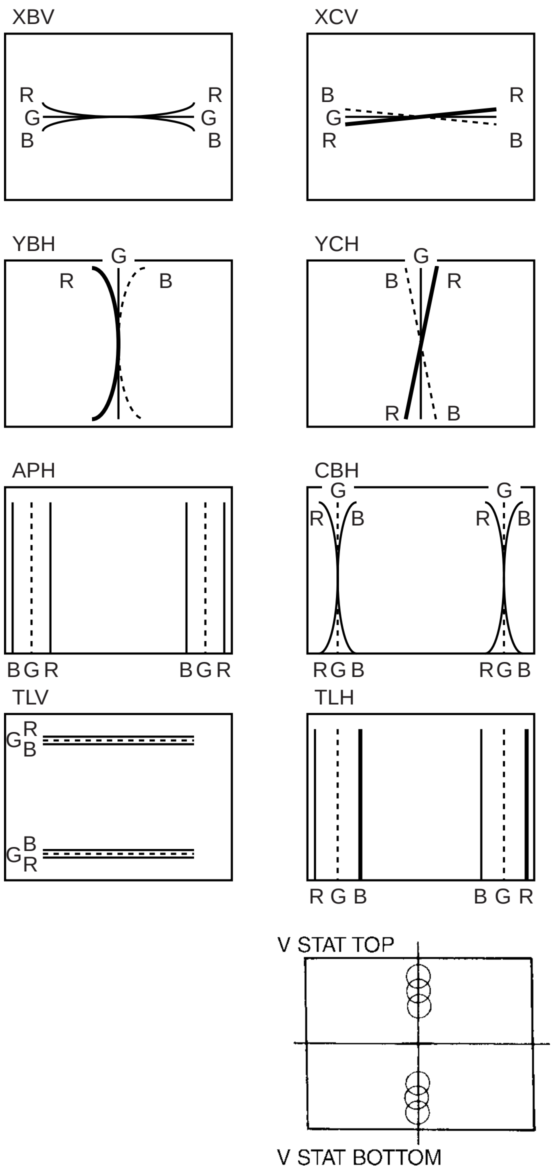

XBV
R
G
B
R
G
B
XCV
B
G
R
R
B
YBH
G
R
B
YCH
G
B
R
R
B
APH
B G R
B G R
CBH
G
R
B
G
R
B
R G B
R G B
TLV
G R B
G B R
TLH
R G B
B G R
V STAT TOP
V STAT BOTTOM

**Fig. 1-17**

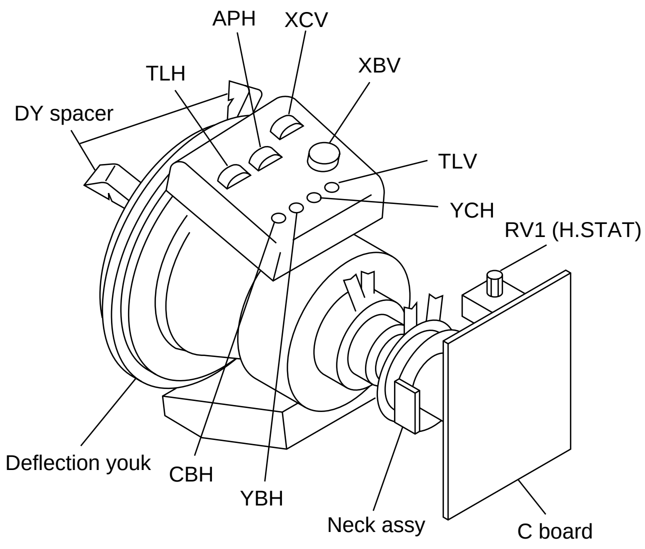

APH
XCV
TLH
XBV
DY spacer
TLV
YCH
RV1 (H.STAT)
Deflection youk
CBH
YBH
Neck assy
C board

**Fig. 1-18**

## [24 inch Convergence Adjustment]

- Preparation

1. Select the 16:9 NORM of the SCREEN mode using the INPUT CONFIGURATION menu of the SETUP menu.
2. Connect the MODE13 480/60i (15 kHz) cross-hatch signal to input.

- Convergence adjustment

1. Minimize the vertical mis-convergence in the center at the left-most end and at the right-most end of screen using the DY correction reactors XBV and XCV.
2. Minimize the horizontal mis-convergence in the top and the bottom of screen using the DY correction reactors YCH and YBH.
3. Minimize the mis-convergence at the left-most end and at the right-most end of screen using the DY correction reactors APH and TLH.
4. Adjust the V. STAT BOTTOM data then adjust the V. STAT TOP data in this order so that the vertical mis-convergence in the top and bottom of screen.
   (Keep the V.STAT data to be 128, and do not change it to any data other than 128.)

Note: The V. STATIC BOTTOM and the V. STAT. TOP adjustment menus are located in the lower layer of the E board menu of the MAINTENANCE menu.

5. If there exists any left-to-right asymmetrical areas, insert the TLH correction plate into DY and so that the mis-convergence is minimized.)
6. Copy the respective adjustment data into MODE1 to MODE12/MODE14. Then confirm the vertical and horizontal convergence again. If any mis-convergence is noticed, adjust the convergence again.

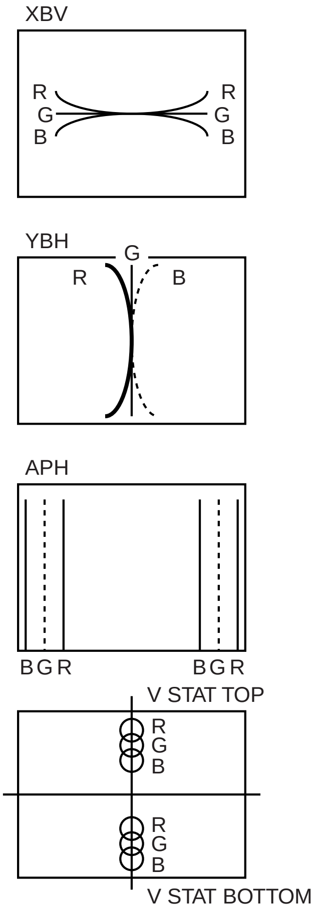

XBV
R
G
B
R
G
B
XCV
B
G
R
R
B
YBH
G
R
B
YCH
G
B
R
R
B
APH
B G R
B G R
TLH
R G B
B G R
V STAT TOP
R
G
B
R
G
B
V STAT BOTTOM

Fig. 1-19

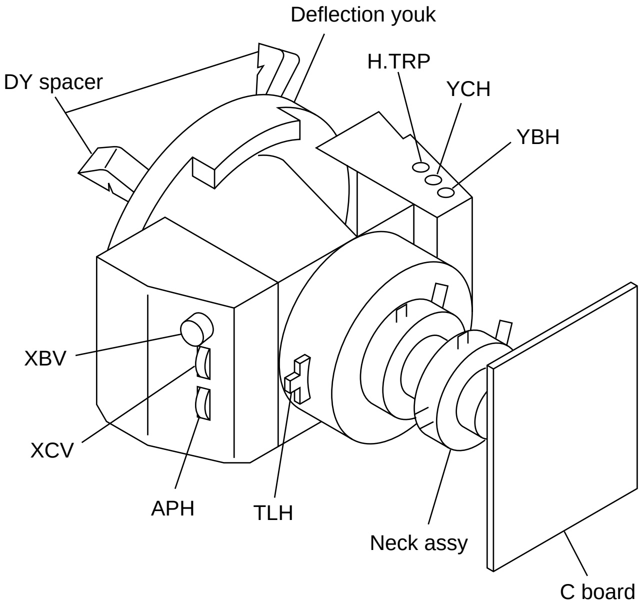

Deflection youk
DY spacer
H.TRP
YCH
YBH
XBV
XCV
APH
TLH
Neck assy
C board

Fig. 1-20

## [G2 Adjustment]

Note: The G2 REF adjustment menu is located inside the BK BOARD menu of the MAINTENANCE menu.

1. Input the HD (1125) color bar signal. (CHROMA: OFF state)
2. Connect the probe of the oscilloscope to each R, G, B cathode (TP2, 3, 4) of the C board, and check the DC voltages of the color bar signal pedestal portions. (20V/Div)
3. Connect the probe of the oscilloscope to the cathode with the highest pedestal DC voltage.
4. Adjust the G2 REF data so that the DC voltage at the pedestal becomes the value as shown below.
   20 inch : 97.5 ± 2.5 V
   24 inch : 102.5 ± 2/5 V

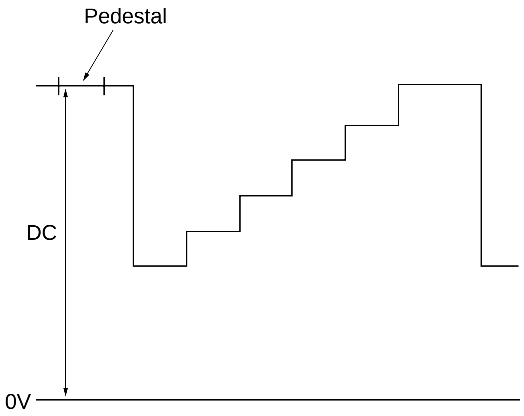
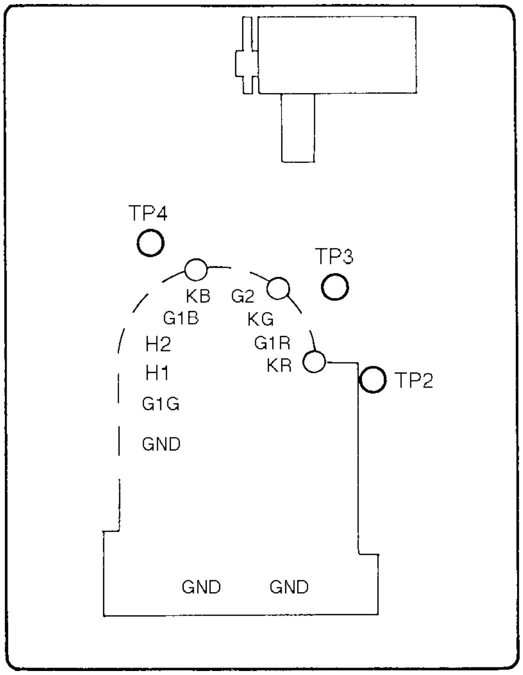
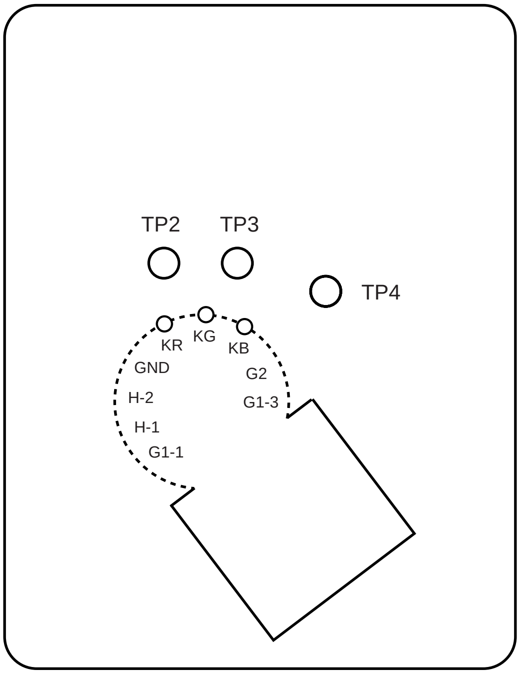

Pedestal
DC
0V

**Fig. 1-21**


TP4
TP3
KB
G2
G1B
KG
H2
G1R
H1
KR
TP2
G1G
GND
GND
GND

C board – Side B –
(20 inch)


TP2
TP3
TP4
KR
KG
KB
GND
G2
H-2
G1-3
H-1
G1-1

C board – Side B –
(24 inch)

**Fig. 1-22**

## [White Balance Adjustment]

Note: Perform the landing adjustment and the digital uniformity adjustment before the white balance adjustment as much as possible. (Only in 24 inch)

1. Outline of Adjustments and Calibration of the Color Analyzer Used for Adjustments
   Perform the following adjustments.

1.1 Obtaining the Parameters for Converting the RGB Drive Voltage of the CRT to the Chromaticity Coordinate
This monitor comes equipped with a function to copy color temperature between several monitors.
Since the CRT drive voltage depends on each individual CRT. The same color temperature cannot be obtained even if the same drive voltage is supplied to several monitors. Consequently, to copy a certain color temperature between several monitors, there is a need to transmit data which does not depend on the CRT using the xyY chromaticity coordinate.
When the SYSTEM/COLOR TEMP/FACTORY ADJ menu of the MAINTENANCE menu is selected and executed, the D93 color temperature will automatically be adjusted, and at the same time, the parameters for converting the drive voltage and chromaticity coordinate will be created. Use these parameters when copying color temperature to other monitors and copying color temperature to the memory card.

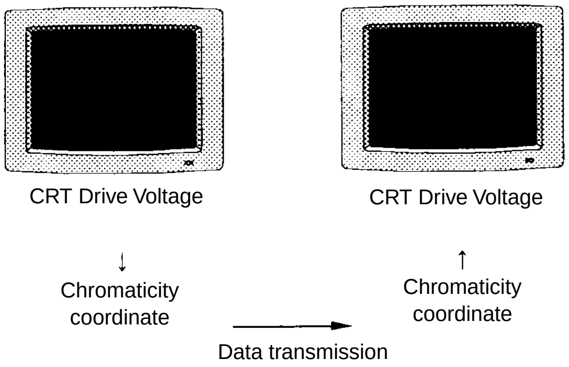


**Fig. 1-26**

1.2 D65 Color Temperature Adjustment

1.3 Copying Color Temperature Data D93 to Color Temperature STD, COLOR1, COLOR2, and AUX

- Calibration of color analyzer
  Generally, when measuring the color temperature of a certain monitor using several color analyzers, these color analyzers will show different measured values. The measured values will also change with time.
  Use the color analyzers for this adjustment after calibrating them so that they will show the correct measured values at the following chromaticity coordinate.

| | x | y | (cd/m2) |
|---|---|---|---|
| D93 | 283 | 297 | 2.7 (low) |
| | 283 | 297 | 100 (high) |
| D65 | 313 | 329 | 2.7 (low) |
| | 313 | 329 | 100 (high) |
| D56 | 331 | 346 | 2.7 (low) |
| | 331 | 346 | 100 (high) |

2. Preparations for Adjustments

2.1 Input the HD signal (1125) into the G/Y input terminal of the BK board to display it on the screen.

2.2 Connect the RS-232C terminal of CA-100 and the OPTION terminal of the monitor using the cables indicated at Required Tools and Measuring Instruments (see page 3-1).

2.3 Set CA-100 as follows, and attach the measuring probe of CA-100 to the center of the CRT screen.
Display mode : xyY mode
Baud Rate : 9600

3. Select SET UP menu of MAINTENANCE menu.
4. Select the SYSTEM/COLOR TEMP menu of the MAINTENANCE menu.
5. Select D93 of COLOR TEMP, cover the CRT screen with a blackout cloth, select FACTORY SET, and start automatic adjustments.
6. Select D65 of COLOR TEMP, and then select the PROBE menu. After selecting D65, cover the CRT screen with a blackout cloth, and select START to start automatic adjustments.
7. Select the SYSTEM/COLOR TEMP/COPY/OTHER VALUE menu of the MAINTENANCE menu.
8. Select STD of COLOR TEMP, select D65, and copy the color temperature data to STD.
9. Select COLOR1 of COLORTEMP, select D93, and copy the color temperature data to COLOR1.
10. Select COLOR2 of COLORTEMP, select D65, and copy the color temperature data to COLOR2.
11. Select AUX of COLORTEMP, select D65, and copy the color temperature data to AUX.

# Section 4
# Safety Related Adjustments

### +B (135V) Voltage Adjustments

Perform the following checks and adjustments when the following parts ( ◪ on the schematic diagram) have been replaced.

◪ G board ............. IC202

1. Connect a digital voltmeter to TP1 of the G board. (GND is TP6 of the G board)
   - Use a digital voltmeter with more than 4 digits.
2. Confirm that the TP1 voltage value is as shown below.
   135.2 V ± 0.8 VDC

### High Voltage Regulator Check/Adjustment
### ( ⧓ RV501)

Perform the following checks/adjustments when the following parts ( ◪ on the schematic diagram) have been replaced.

◪ PA board ........... R501, R502, R505, R506, R508, R509, R510, R512, R513, R801, R802, R804, RV501, IC501, IC801 (20 inch), IC805 (24 inch)

1. Turn OFF the power.
2. Connect the static voltmeter to the anode cap of the CRT.
   - Static voltmeter : Calibrated to an input impedance of above $2 \times 10^9\,\Omega$.
   (For example, Singer ESH-27X or ESH-23X)
3. Turn ON the power.
4. Input the HD (1125) monoscope signal.
5. Press the BRIGHTNESS VR and CONTRAST VR buttons to set the PRESET state.
   [ The LED (green) on the button goes off. ]
6. Check that the high voltage value is within the following range.
   27.0 ± 0.15 kV
7. If 6 is not satisfied, replace RV501 of the PA board and adjust RV501 to satisfy the specifications.
8. Remove the static voltmeter.
9. If RV501 has been replaced at step 7, fix it with epoxy resin (made by DP-190 3M) after adjusting the RV.

### High Voltage Hold-Down Check/Adjustment
### ( ⧓ RV503)

Perform the following checks/adjustments when the following parts ( ◪ on the schematic diagram) have been replaced.

◪ PA board ........... R524, R525, R526, R527, R530, RV503, D502, D505, D902
◪ PC board ........... R812, D801

1. Turn OFF the power.
2. Connect the static voltmeter to the anode cap of the CRT.
   - Static voltmeter : Calibrated to an input impedance of above $2 \times 10^9\,\Omega$.
   (For example, Singer ESH-27X or ESH-23X)
3. Connect a 200 kΩ variable resistor between TP501 and TP504 (GND) of the PA board.
   (Set the resistance of the 200 kΩ resistor to the maximum value.)
4. Turn ON the power.
5. Input the HD (1125) cross-hatch signal.
6. Press the BRIGHTNESS VR and CONTRAST VR buttons to set the PRESET state.
   [ The LED (green) on the button goes off. ]
7. Cut-off the R,G,B. [ Turn ON the SHIFT button (orange LED lights up) and turn ON the R, G, and B buttons (LED lights up)].
8. Decrease the resistance of the 200 kΩ variable resistor connected to TP501, and check that the high voltage value drops suddenly at the following values.
   30.0 ± 0.5 kV
9. If 8 is not satisfied, replace RV503 of the PA board and adjust RV503 to satisfy the specifications.
10. Remove the 200 kΩ variable resistor.
11. Check that the high voltage values satisfy the following values.
    27.00 ± 0.15 kV
12. Remove the static voltmeter.
13. If RV503 has been replaced at step 9, fix it with epoxy resin (made by DP-190 3M) after adjusting the RV.

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## Beam Current Protector Check

Perform the following checks when the following parts ( ◪ on the schematic diagram) have been replaced.

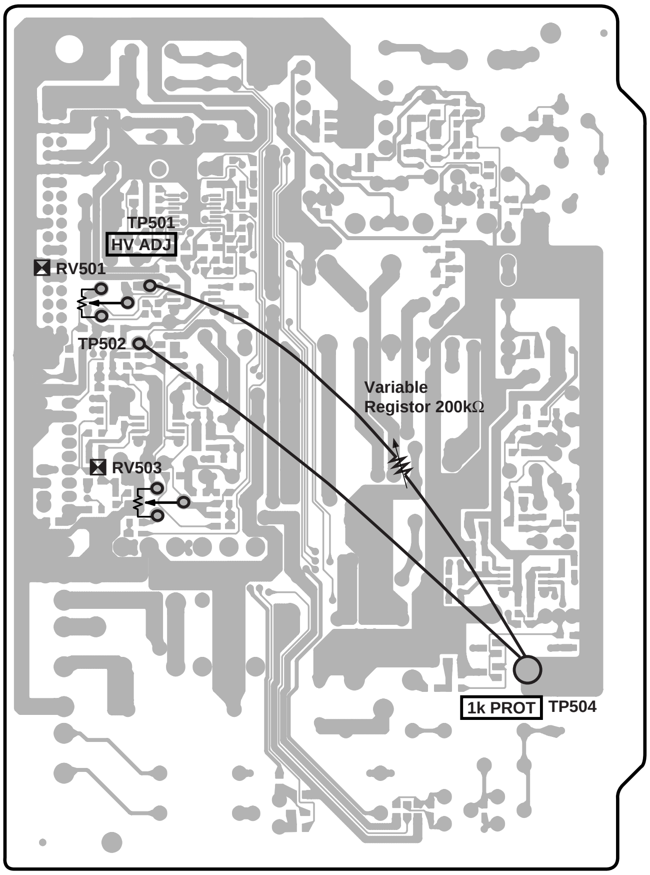
◪ PA board ........... R514, R515, R516, R517, R521, R522, IC502, Q501, Q502, D501, D503, D901

◪ PC board
(20 inch) ............ R801, R802, R803, R804, R805, R806
(24 inch) ............ R804, R805, R806, R807, R808, R809
◪ BK board ........... R912, R913, IC901
◪ E board
(20 inch) ............ R1301, R1302, Q1302, Q1303

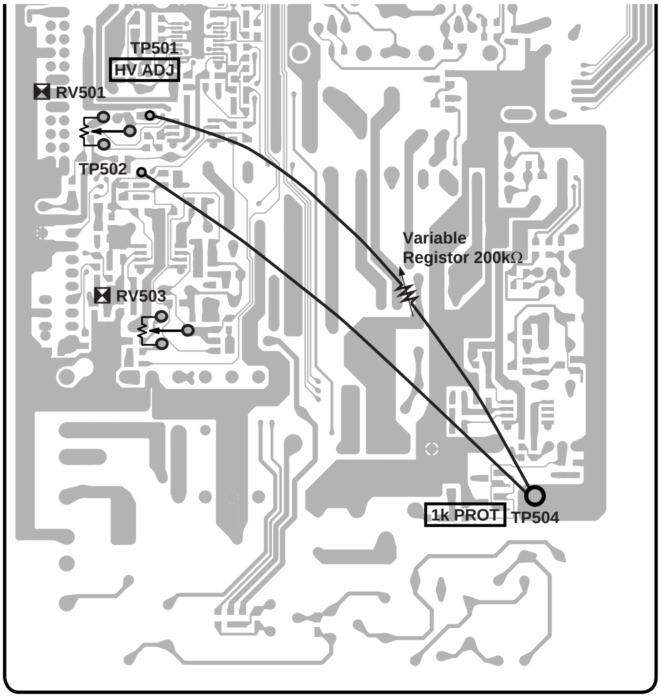
1. Turn OFF the power.
2. Connect the CN3 connector of the PC board.
3. Connect a direct current meter between pins 1 and 2 of CN3 of the PC board.
4. Short-circuit between pins 3 and 4 of CN3 of the PC board using a jumper.
5. Short-circuit between TP502 and TP504 (GND) of the PA board using a jumper.
6. Turn ON the power.
7. Input the HD (1125) 100% all white signal.
8. Press the BRIGHTNESS VR and CONTRAST VR buttons to set the MANUAL state.
   [ The LED (green) on the button goes off. ]
9. Turn the BRIGHTNESS VR and the CONTRAST VR starting from the MIN end toward the MAX end gently. When the ammeter reading reaches the following value, confirm that the protectors do not operate.
   24 inch: 1.35 mA
   20 inch: 1.5 mA
10. Turn the BRIGHTNESS VR and the CONTRAST VR starting from the MIN end toward the MAX end gently. When the ammeter reading reaches the following value, confirm that the protectors operate.
    24 inch: $1.7^{+0.1}_{-0.3}$ mA
    20 inch: $2.00^{+0.15}_{-0.45}$ mA
11. Turn OFF the power.
12. Remove the jumper from between TP502 and TP504 (GND) of the PA board.
13. Turn ON the power again.
14. Check that when the BRIGHTNESS VR and CONTRAST VR buttons are rotated from MIN to MAX, the ABL operates (the maximum reading of the current meter should be the value below).
    24 inch : $1.2^{+0.1}_{-0.15}$ mA
    20 inch : $1.00^{+0.20}_{-0.15}$ mA (16:9)
    : 1.30 ± 0.15mA (4:3)
15. Remove the direct current meter.
16. Remove the jumper between pins 3 and 4 of the PC board.
17. Connect the CN3 connector of the PC board.

## PA BOARD
## -B SIDE-

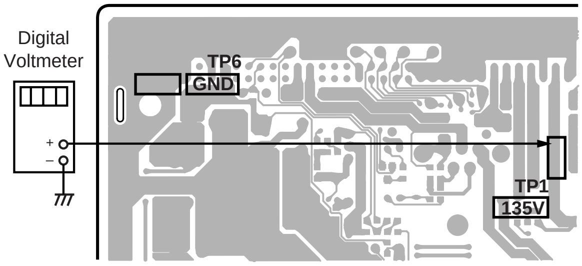
(20 inch)


TP501
HV ADJ
RV501
TP502
Variable
Registor 200kΩ
RV503
1k PROT
TP504

(24 inch)

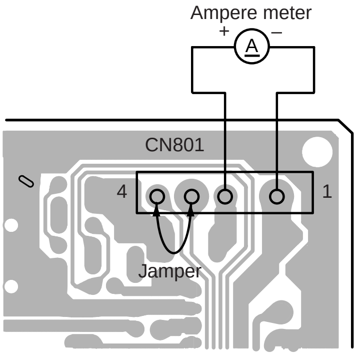

TP501
HV ADJ
RV501
TP502
Variable
Registor 200kΩ
RV503
1k PROT
TP504

## G BOARD
## -B SIDE-

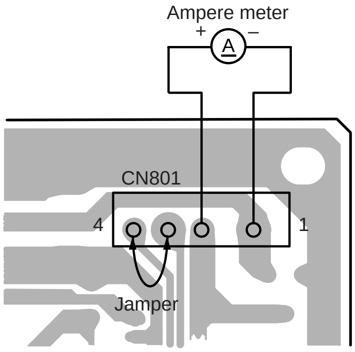

Digital
Voltmeter
+
–
TP6
GND
TP1
135V

## PC BOARD
## -B SIDE-

(20 inch)


Ampere meter
+
A
–
CN801
4
1
Jamper

(24 inch)


Ampere meter
+
A
–
CN801
4
1
Jamper

# Section 5

# Circuit Adjustments

## 5-1. BK Board Adjustments

This section describes the following adjustments which are required when performing the maintenance and parts replacement of the BK board.

1. Bright center adjustment
2. Clamp level adjustment
3. Pulse level adjustment
4. R-Y GAIN, B-Y GAIN adjustment
5. SETUP adjustment
6. 100 IRE adjustment
7. BIAS REF. Adjustment
8. DRIVE REF. Adjustment
9. RGB SETUP adjustment
10. RGB 100 IRE adjustment
11. Frequency characteristics adjustment

### Control Settings

- Set as follows at the INPUT CONFIGURATION menu of the SETUP menu.
  For component signal
  FORMAT ....................... YPBPR 1035
  SLOT No. ....................... 6
  INPUT No. ..................... 1, 2, 3
  SYNC MODE ................ INT

  For RGB signal
  FORMAT ....................... GBR

- Select and execute SLOT 6 VIDEO AMP at RE-LOAD FACTORY DATA in EXTEND MENU of the SETUP menu.
- Before starting the adjustment, turn the digital uniformity (DU) to OFF (0) is the lower layer of the MAINTENANCE. (24 inch only) Set DU to ON (1) upon completion of the BK adjustment.

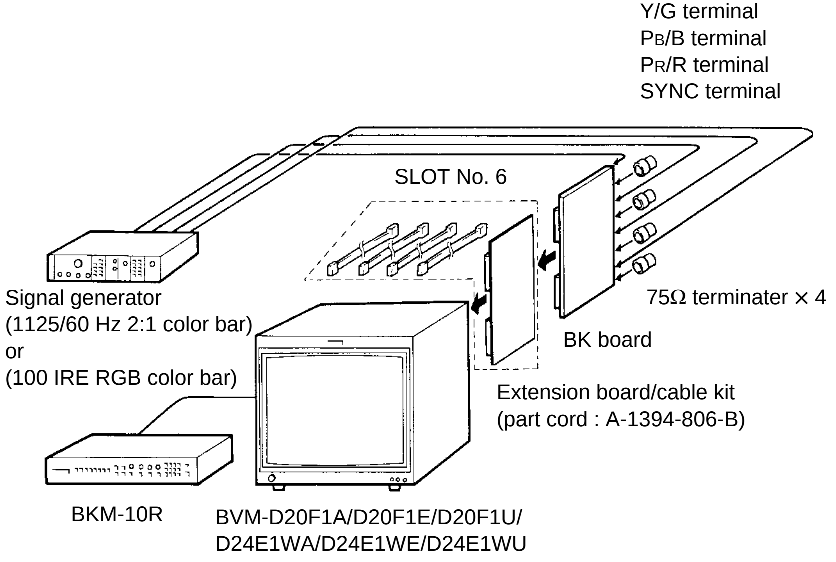
## Equipment Used

| Name | Main Specifications | Equipment |
|---|---|---|
| Signal generator | • 1125 (1035) : SMPTE240M standard or BTA S-S001A standard<br>• 1125 (1080) : SMPTE274M standard<br>• 525P : SMPTE293M standard or BTA T-1004 standard<br>• 1250 : SMPTE295M standard | |
| Oscilloscope | Frequency : Above DC to 150 MHz<br>Above 2 phenomena (ADD mode) | TEKTRONIX 2445A or equivalent |

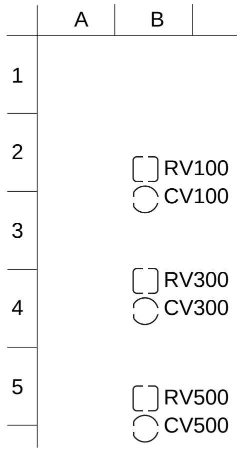
## Tools

| Name | Parts No. | Remarks |
|---|---|---|
| Extension board/cable kit | A-1394-806-B | Z board and four cables |
| 75Ω terminal | – | × 4 |
| Adjusting screwdriver | – | |

## Connection (1)

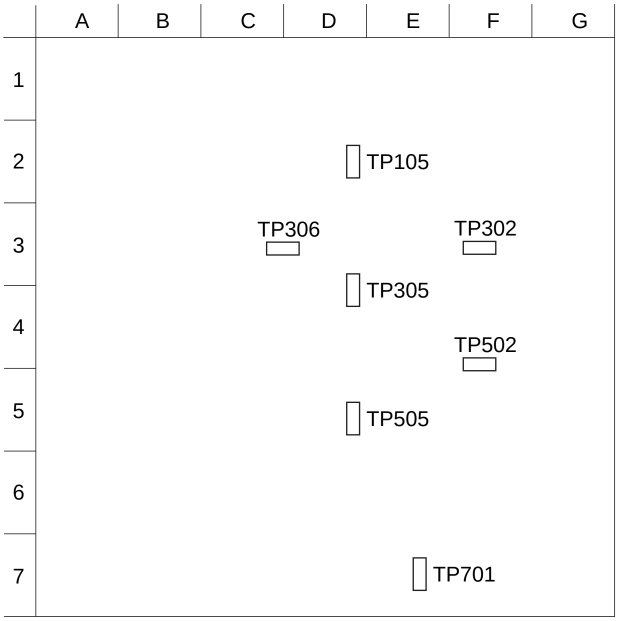

Y/G terminal
PB/B terminal
PR/R terminal
SYNC terminal
SLOT No. 6
75Ω terminater × 4
Signal generator
(1125/60 Hz 2:1 color bar)
or
(100 IRE RGB color bar)
BK board
Extension board/cable kit
(part cord : A-1394-806-B)
BKM-10R
BVM-D20F1A/D20F1E/D20F1U/
D24E1WA/D24E1WE/D24E1WU

## Adjusting Point


A
B
1
2
3
4
5
RV100
CV100
RV300
CV300
RV500
CV500

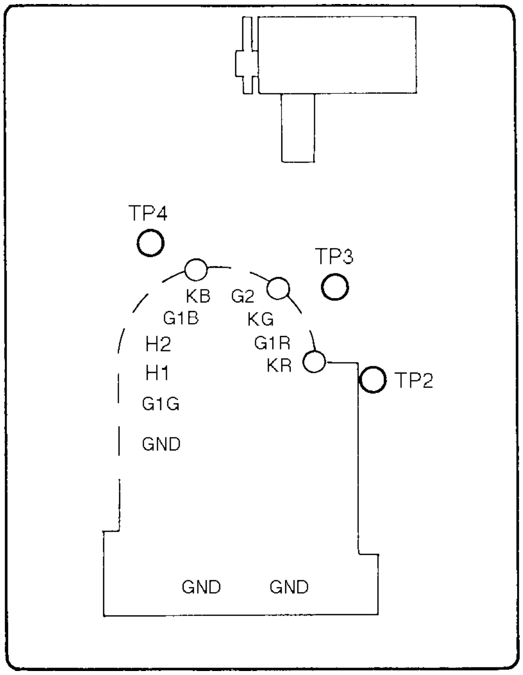
BK board –Side A–

## Connectio (2)

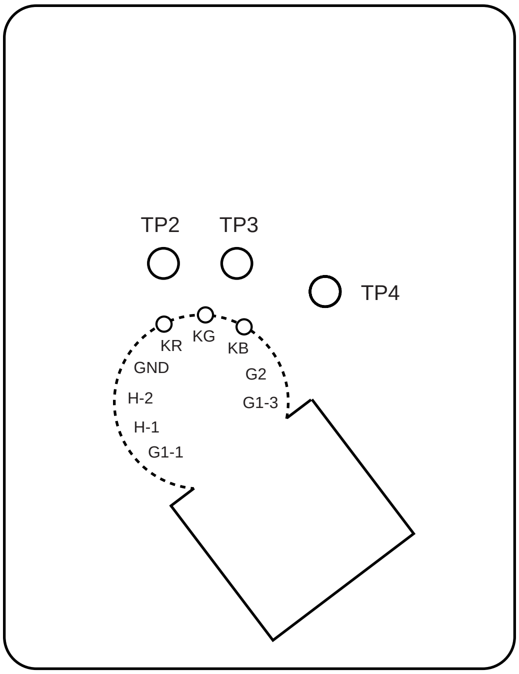

A
B
C
D
E
F
G
1
2
3
4
5
6
7
TP105
TP306
TP302
TP305
TP502
TP505
TP701

**BK Board –SIDE A–**

## Connectio (3)


TP4
TP3
KB
G2
G1B
KG
H2
G1R
KR
H1
TP2
G1G
GND
GND
GND

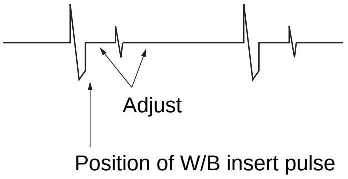
**C Board –SIDE B–**
**(20 inch)**


TP2
TP3
TP4
KR
KG
KB
GND
G2
H-2
G1-3
H-1
G1-1

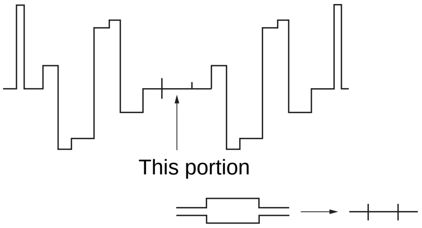
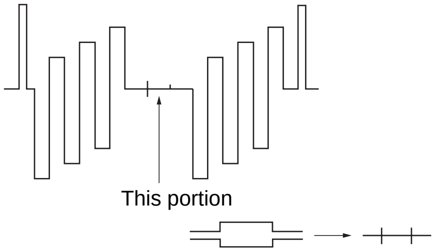
**C Board –SIDE B–**
**(24 inch)**

## Adjusting Procedure

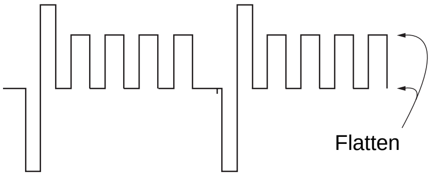
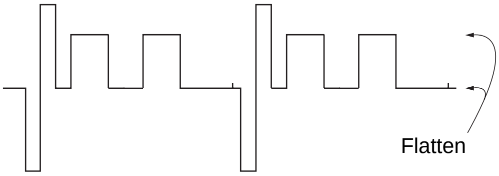
### 1. Bright Center Adjustment

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| • Input color bar signal (1125/60 Hz 2:1).<br>• Set the BRIGHT data to 1000 using the BRIGHT knob. (**Note:** At CONTROL PRESET)<br>• Connect an oscilloscope to TP701 (BRT). | Deviation of TP701 (BRT) center:<br>Level difference : 0 ± 8 mV<br> | The adjustment menu is BRT CENTER located inside the BK BOARD menu of the MAINTENANCE menu. |

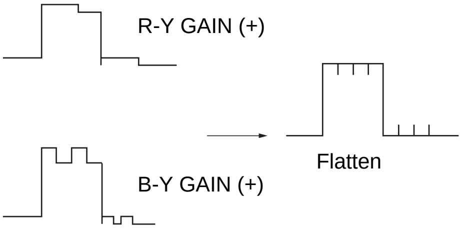
### 2. Clamp Level Adjustment

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| Step 1<br>• Input color bar signal (1125/60 Hz 2:1).<br>• Set the CHROMA data to MAX2000 using the CHROMA knob. (**Note:** At CONTROL PRESET)<br>• Connect an oscilloscope to TP302. | Equalize the TP302 pedestal and clamp offset pulse.<br> | The adjustment menu is R-Y CLAMP OFFSET located inside the BK BOARD menu of the MAINTENANCE menu. |
| Step 2<br>• Connect an oscilloscope to TP502.<br>• After adjusting, set the CHROMA data to 1000. | Equalize the TP502 pedestal and clamp offset pulse.<br> | The adjustment menu is B-Y CLAMP OFFSET located inside the BK BOARD menu of the MAINTENANCE menu. |

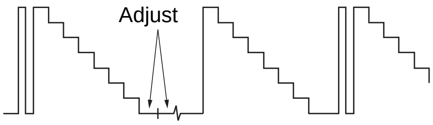
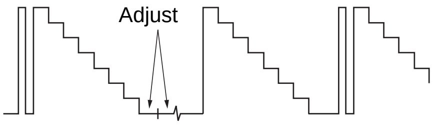
## 3. Pulse Level Adjustment

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| Step 1<br>• Input color bar signal (1125/60 Hz 2:1).<br>• Set the CHROMA data to 1000 using the CHROMA knob. (**Note:** At CONTROL PRESET)<br>• Connect an oscilloscope to TP505. | The output waveform of TP505 is flat:<br>Level difference : 0 ± 10 mV<br> | The adjustment menu is PB LEVEL located inside the BK BOARD menu of the MAINTENANCE menu. |
| Step 2<br>• Connect an oscilloscope to TP105. | The output waveform of TP105 is flat:<br>Level difference : 0 ± 10 mV<br> | The adjustment menu is PR LEVEL located inside the BK BOARD menu of the MAINTENANCE menu. |

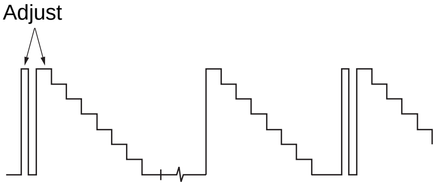
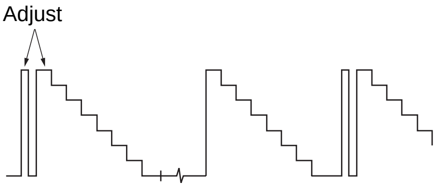
## 4. R-Y GAIN, B-Y GAIN Adjustment

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| • Input color bar signal (1125/60 Hz 2:1).<br>• Set the CHROMA data to 1000 using the CHROMA knob. (**Note:** At CONTROL PRESET)<br>• Connect an oscilloscope to TP305. | The GREEN waveform of TP305 is flat:<br>Level difference : 0 ± 10 mV<br> | The adjustment menus are R-Y GAIN, B-Y GAIN located inside the BK BOARD menu of the MAINTENANCE menu. |

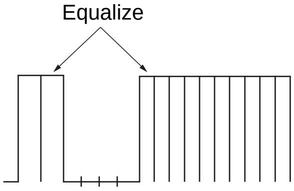
## 5. SETUP Adjustment

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| Step 1<br>• Input only the Y signal of color bar signal (1125/60 Hz 2:1).<br>(Cut off the B-Y and R-Y signals.)<br>• Connect an oscilloscope to TP105. | The black level and setup signal level of TP105 are equal:<br>Level difference : 0 ± 2 mV<br> | The adjustment menu is R SETUP located inside the BK BOARD menu of the MAINTENANCE menu. |
| Step 2<br>• Like step 1, connect oscilloscopes to TP305 and TP505. | The black levels and setup signal levels of TP305 and TP505 are equal:<br>Level difference : 0 ± 2 mV<br> | The adjustment menus are G SETUP and B SETUP located inside the BK BOARD menu of the MAINTENANCE menu. |

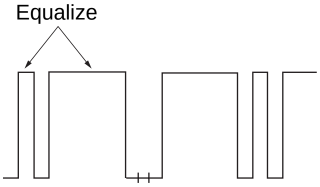
## 6. 100 IRE Adjustment

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| Step 1<br>• Input color bar signal (1125/60 Hz 2:1).<br>• Connect an oscilloscope to TP105. | The 100 IRE level and 100 IRE pulse level of the TP105 output are equal:<br>Level difference : 0 ± 2 mV<br> | The adjustment menu is R 100 IRE located inside the BK BOARD menu of the MAINTENANCE menu. |
| Step 2<br>• Like step 1, connect oscilloscopes to TP305 and TP505. | The 100 IRE levels and 100 IRE pulse levels of the TP305 and TP505 outputs are equal:<br>Level difference : 0 ± 2 mV<br> | The adjustment menus are G 100 IRE and B 100 IRE located inside the BK BOARD menu of the MAINTENANCE menu. |

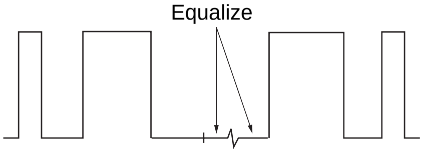
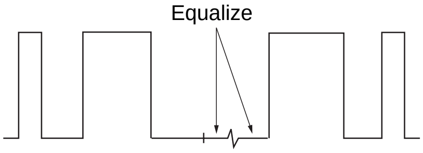
## 7. BIAS REF Adjustment

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| • Set CONTRAST to 2048 at the BK BOARD menu of the MAINTENANCE menu.<br>• Input the 20 IRE all white signal.<br>• Connect an oscilloscope to TP306. | The all white peak of the TP306 output is equal to the BIAS REF pulse:<br>Level difference : 0 ± 5 mV<br><br> <br>**Note:** Check the waveform in the V period. | The adjustment menu is BIAS REF located inside the BK BOARD menu of the MAINTENANCE menu. |

## 8. DRIVE REF Adjustment

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| • Set CONTRAST to 2048 at the BK BOARD menu of the MAINTENANCE menu.<br>• Input the 100 IRE all white signal.<br>• Connect an oscilloscope to TP306. | The all white peak of the TP306 output is equal to the DRIVE REF pulse:<br>Level difference : 0 ± 5 mV<br><br> | The adjustment menu is DRIVE REF located inside the BK BOARD menu of the MAINTENANCE menu. |

## 9. RGB SETUP Adjustment

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| Step 1<br>• Input the RGB signal of 100 IRE.<br>• Connect an oscilloscope to TP105. | The black level of the TP105 output is equal to the SETUP signal level:<br>Level difference : 0 ± 2 mV<br><br> | The adjustment menu is R SETUP located inside the BK BOARD menu of the MAINTENANCE menu. |
| Step 2<br>• Like step 1, connect oscilloscopes to TP305 and TP505. | The black levels of the TP305 and TP505 outputs are equal to the SETUP signal level:<br>Level difference : 0 ± 2 mV<br><br> | The adjustment menus are G SETUP and B SETUP located inside the BK BOARD menu of the MAINTENANCE menu. |

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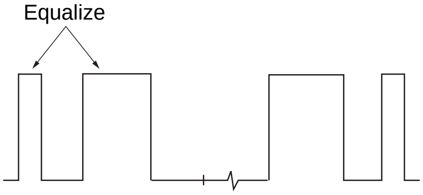
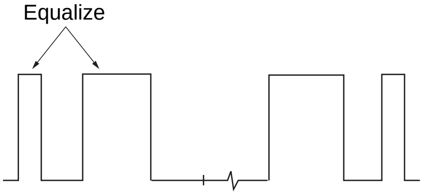
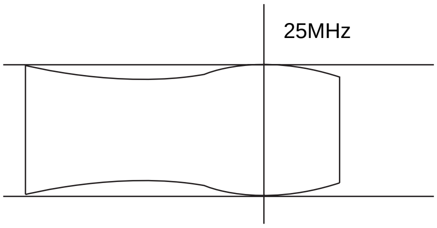
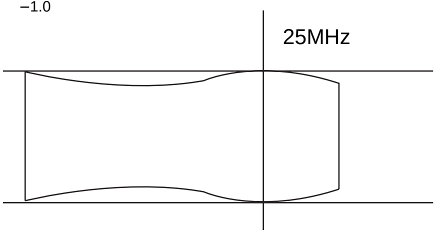
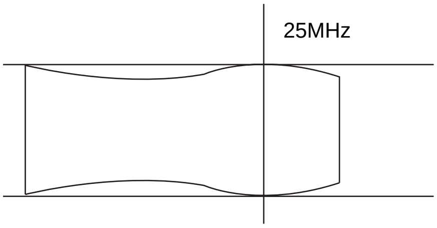
## 10. RGB 100 IRE Adjustment

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| Step 1<br>• Input 100 IRE RGB signal.<br>• Connect an oscilloscope to TP105. | The 100 IRE level of the TP105 output is equal to the 100 IRE pulse.<br> | The adjustment menu is R 100 IRE located inside the BK BOARD menu of the MAINTENANCE menu. |
| Step 2<br>• Like step 1, connect oscilloscopes to TP305 and TP505. | The 100 IRE levels of TP305 and TP505 are equal to the 100 IRE pulse.<br> | The adjustment menus are G 100 IRE and B 100 IRE located inside the BK BOARD menu of the MAINTENANCE menu. |

## 11. Frequency Characteristics Adjustment

**Note:** Do not adjust the BK board with the extension board and cable connected in this adjustment.

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| Step 1<br>• Input the 0 to 40 MHz sweep signal with the RGB signal input. (MARKER ON)<br>• Rotate RV100 fully in the clockwise direction (↻).<br>• Connect an oscilloscope to TP2 (R) of the C board using a 100:1 FET probe.<br>• Adjust CV100 so that the waveform satisfies the standard. If unadjustablecompletely using CV100, adjust to satisfy the standard while tracking with RV100 and CV100. | The 0 to 30 MHz range of the TP2 (R) output waveform is flat : $0^{+0.5}_{-1.0}$ dB<br> <br>**Note:** Adjust so that the 25 MHz marker becomes 0 dB, and check if the above standard is satisfied. | ⊘ CV100 (B-2) BK board<br>If outside the standard:<br>⊘ RV100 (B-2) BK board |

| Adjustment | Standard | Adjusting Point |
|---|---|---|
| Step 2<br>• Rotate RV300 fully in the clockwise direction (↻).<br>• Connect an oscilloscope to TP3 (G) of the C board using a 100:1 FET probe.<br>• Adjust CV300 so that the waveform satisfies the standard.<br>If unadjustable completely using CV300, adjust to satisfy the standard while tracking with RV300 and CV300. | The 0 to 30 MHz range of the TP3 (G) output waveform is flat :<br>$0^{+0.5}_{-1.0}$ dB<br> | ⊘ CV300 (D-2) BK board<br>If outside the standard:<br>⊘ RV300 (D-2) BK board |
| Step 3<br>• Rotate RV500 fully in the clockwise direction (↻).<br>• Connect an oscilloscope to TP4 (B) of the C board using a 100:1 FET probe.<br>• Adjust CV500 so that the waveform satisfies the standard.<br>If unadjustable completely using CV500, adjust to satisfy the standard while tracking with RV500 and CV500. | The 0 to 30 MHz range of the TP4 (B) output waveform is flat :<br>$0^{+0.5}_{-1.0}$ dB<br> | ⊘ CV500 (E-2) BK board<br>If outside the standard:<br>⊘ RV500 (E-2) BK board |

## 12. Reference

Refer to 5-1. Basic Adjustments When Replacing CRT for details of the following adjustments.

G2 adjustment
White balance adjustment

# Section 6
# Circuit Descriptions

This section describes the circuits of the following boards used in the BVM-D20F1A/D20F1E/D20F1U/D24E1WA/D24E1WE/D24E1WU.

6-1. BK board
6-2. PA board
6-3. BC board
6-4. G board
6-5. E, EA board
6-6. D board
6-7. BUF board

## 6-1. BK board

### 1. BK Select Switch

When the BK SELECT signal is “Low”, the Y/G signal of the Y/G terminal (TB1) input is input to IC100 via the buffer amplifier (Q100, Q102). When “High”, the 2Y/2G signal of the 12B terminal input of CN1 is input to IC100.
In IC100, input switching with the Y/G signal is performed at the 11B terminal input of CN1.
The same is performed for the PB/B and PR/R signals.

### 2. Clamp Circuit (1)

The analog switch (IC100) is turned ON by the Y–CLP–P pulse. As a result, the pedestal voltage of the Y/G signal is sample-held. In IC101 (1/2), this voltage and the reference voltage (0 Vdc) are compared to control the bias current of the Y/G signal clamp amplifier (Q103 to 105) so that the pedestal voltage of the Y/G signal becomes 0 Vdc.
The same is performed for the PB/B and PR/R signals.

### 3. W B INSERT Pulse Insertion Circuit

To adjust the levels of the PR and PB signals, the WHITE pulse and BLACK pulse are alternately input in the horizontal blanking period of the respective signals.
For the Y/G signal, the voltage of the period during which the WHITE and BLACK pulses are input at IC100 (3/3) is set to 0 Vdc. For the PR signal, the WHITE and BLACK pulses are input at IC303 (1/3). The level of the WHITE pulse is set by the R–Y PULSE LEVEL voltage while that of the BLACK pulse is set by the R–Y CLAMP OFFSET voltage. These two voltages are switched by WHITE INSERT P at IC300 (3/3), and input to IC303 (1/3).
The same is performed for the PB signal.

### 4. Chroma Level Adjustment Circuit

The PR signal is level-adjusted by IC304 (gain control amplifier) to become the R–Y signal. The R–Y signal output from IC304 is input to IC303 (2/3) and the voltage of the WHITE pulse is sample-held. At IC305 (1/2), this voltage and the CHROMA voltage are compared to control the gain of IC304. As a result, the WHITE pulse voltage becomes equivalent to the CHROMA voltage. Consequently, by varying the CHROMA voltage, the chroma level can be adjusted. The R–Y signal of the IC304 output is also input to IC303 (3/3). In this IC, the voltage of the BLACK pulse is sample-held. This voltage and the GND level are compared at IC305 (2/2) to control the DC bias of IC304. As a result, the pedestal level of the R–Y signal is fixed at the GND level.
The same is performed for the PB signal.

### 5. Matrix Circuit

The Y signal, R–Y signal, and B–Y signal are matrixed to form the R signal, G signal, and B signal.

- R Signal Matrix Circuit

The Y signal and R–Y signal are added at Q115 to form the R signal.

- G Signal Matrix Circuit

At IC307, the R–Y signal and B–Y signal are inverse-amplified and added via IC306 (gain control amplifier). This signal is added to the Y signal at Q315 to obtain the G signal. The mixing rate is determined by R358, 359, and 361, and the R–Y and B–Y GAIN are finely adjusted.

- B Signal Matrix Circuit

The Y signal and B–Y signal are added at Q515 to form the B signal.

### 6. RGB Switch

Switches between the RGB signal and R,G,B signals from the matrix circuit.

### 7. Clamp Circuit (2)

The voltage of the BLACK pulse of the R signal is sample-held at IC110. At IC113 (1/2), this voltage and the GND level are compared to control the DC bias of the R signal amplifier (Q120 to Q122). As a result, the pedestal level of the R signal is fixed at the GND level.
The same is performed for the G and B signals.

### 8. Half Blanking

The video signal is half-blanked at the timing of the CHAR BLK signal. The half-blanking level is switched by the HALF LEVERL SW.

### 9. 100 IRE Pulse, SET UP Pulse Insertion Circuit

To adjust the contrast, the 100 IRE pulse and SET UP pulse are alternately inserted into the horizontal blanking period of the R,G,B signals. For the R signal, the 100 IRE pulse and SET UP pulse are inserted at IC112 (3/3). The level of the 100 IRE pulse is set by the R100 IRE voltage. The level of the SET UP pulse is set by the R SET UP voltage. These two voltages are switched by WHITE INSERT P at IC110 (3/3), passed through IC112 (2/3), and input to IC112 (3/3). At
IC112 (2/3), the half-blanked video signal is inserted.
The same is performed for the G and B signals.

### 10. Blue Only Switch

During the blue only mode, the B signal is output instead of the R signal at IC115 (1/3), and the B signal is output instead of the G signal at IC315 (1/3).

### 11. Contrast, Bright Adjustment Circuit

The R signal is adjusted for its contrast at IC116 (gain control amplifier). The R signal output from IC116 is input to IC115 (2/3) and the voltage of the 100 IRE pulse is sample-held. At IC117 (1/2), this voltage and the CONT voltage are compared to control the gain of IC116. As a result, the 100 IRE pulse voltage becomes equivalent to the CONT voltage. Consequently the contrast can be adjusted by varying the CONT voltage. The R signal output from IC116 is also input to IC115 (3/3). In this IC, the voltage of the SET UP pulse is sample-held. This voltage and the GND level are compared at IC117 (2/2) to control the DC bias of IC112. As a result, the pedestal level of the R signal is fixed at the GND level.
At the same time, the DC bias of IC116 is controlled by the BRT voltage to perform bright adjustment.
The BRT voltage is generated in IC701 (1/3) by switching the BRIGHT voltage and BRT CENTER voltage in the pulse (100 IRE pulse, SET UP pulse) insertion period and in other periods.
The same is performed for the B and G signals.

## 12. Pulse Insertion Circuit

At IC118, the BIAS REF pulse, DRIVE REF pulse, and character pulse are inserted in the R signal. The level of the BIAS REF pulse is set by the BIAS REF voltage. The level of the DRIVE REF pulse is set by the DRIVE REF voltage.
The same is performed for the B and G signals.

## 13. Drive Control Amplifier

The levels of the R, G, B signals are limited so that the drive current of the CRT cathode does not exceed the reference value, and the drive voltage does not exceed its reference value.
The drive current of the CRT cathode is detected by the Q136 collector current. The collector current is clamped by IC132 (2/2), I/V converted, sampled by IC120 (2/3), and compared with the reference voltage (R DRIVE IK) at IC123 (2/2). When the drive current exceeds the reference value, the output signal of IC123 (2/2) is input to IC126 (R drive control amplifier) via IC124 (3/3) to decrease its gain.
The drive voltage of the CRT cathode is detected by the voltage of pin ⑧ of the R VIDEO OUT amplifier (IC131). The voltage of pin ⑧ is clamped by IC127 (1/2), sampled by IC120 (1/3), and compared with the reference voltage (R DRIVE V) at IC123 (1/2). When the drive voltage exceeds the reference value, the output signal of IC123 (1/2) is input to IC126 (R drive control amplifier) via IC124 (3/3) to decrease its gain.
The SUB CPU (IC902) sets whether to control the drive rate based on the drive current (current mode) or based on the drive voltage (voltage mode) (IK/V SW). Normally, the drive control amplifier operates in the voltage mode and uses the current mode during WB adjustments. The DRIVE COMP is used for the conversion of the DRIVE V data during the voltage mode and the DRIVE IK data during the current mode.
The same is performed for the B and G signals.

## 14. Bias Control Circuit

The cathode current detected by IC132 (2/2) is amplified by IC130 (1/2), sampled by IC128 (2/3), and compared with the reference voltage (R BIAS IK) at IC130 (2/2). The output of IC130 (2/2) controls the DC level of IC129 so that the cathode current becomes equivalent to the reference voltage.

## 15. Cut-Off Switch

At IC128 (1/3), the R signal and cut-off voltage (–0.3 Vdc) are switched by the VIDEO TIMING pulse.
The same is performed for the G and B signals.

## 16. VIDEO OUT Amplifier

IC131 drives the R signal cathode of the CRT.
The same is performed for the G and B signals.

## 17. G2 Control

The signal with the lowest voltage amongst the G2 R signal, G2 G signal, and G2 B signal is input to IC705 (1/2), compared with the reference voltage (G2 REF) to become the G2 CONTROL signal, and output from pin 10B of CN1 to the PA board to control the G2 voltage of the CRT.

## 18. ABL, Overload Detection

The ABL voltage and reference voltage (–1 Vdc) are compared at IC901 (1/2). Normally, as the ABL voltage is above –1 Vdc, the output level of IC901 (1/2) is “High”. But when the ABL voltage drops to below –1Vdc, CONT and BRT are controlled so that the ABL voltage becomes –1Vdc (constant). Moreover, as the output level of IC901 (1/2) is lower than the CONTRAST voltage, the OVERLOAD signal of the output of IC904 (1/2) becomes “High”.

## 19. Control Circuit

The SUB CPU (IC902) performs serial communication with the system controller using the three signals MISO, MOSI, and SCLK, and outputs the control signal according to the instructions of the system controller. It also reads the adjustment data of the EEP ROM (IC903) (when setting the data from the BC board to the D/A), and outputs the adjustment voltage from the D/A converter (IC906 to 911).

## 6-2. PA Board

### 1. High Voltage Generator and Regulator Circuit

The high voltage regulator circuit of this model uses the switching regulator system in order to decrease the power consumption.
The high voltage generator and regulator circuit consists of the converter block that supplied the high voltage pulse to FBT, the regulator block that supplies to the converter block and the control block that supplies the control signal which stabilizes the high voltage output, to the regulator block.

The PWM control IC that is IC501 receives, the HV RTN voltage, which is the anode voltage detection output voltage via buffer amplifier IC801 (2/2). The anode voltage is already divided by the resistance-type-voltage-divider that is built inside the RBT at the specified ratio so that the divided voltage is sent to IC501. The anode voltage detected signal is inputted to the positive polarity (+) input terminal (pin-1) of the error amplifier while the reference voltage (the voltage that is divided by resistors R505 and R506) is input to the negative polarity (-) input terminal (pin-19). The PWM output signal is supplied from pin-12 of the error amplifier so that the pin-1 input signal and the pin-12 input signal have the unity level. Q102 is driven by the PWM signal.
On the other hand, the Q109 gate input that is the converter block receives the drive pulse all the time. Amplitude of the drain pulse voltage increases in proportional to the duration of the time during when the drive pulse and the ON-time of Q102 (when the power supply voltage is applied to the Q109 drain) overlap. The anode voltage is generated by multiplying the drain pulse voltage by FBT.
IC501 controls the anode voltage in such a way that it widens the Q101 ON-time for a higher anode voltage when the anode voltage happens to decrease as a CRT current flows through the CRT. The anode voltage is maintained to a constant voltage in such a manner that the Q102 ON-time is controlled.
The anode voltage is switched ON/OFF by turning ON/OFF the IC501 (pin-19) reference voltage with D524 by the HV CTRL signal that is supplied from the E board.

### 2. Excessive Anode Voltage Protector Circuit

The excessive anode voltage protector circuit is installed in this model for the purpose of protecting CRT when the high (anode) voltage increases up to an abnormal voltage due to failure of the feedback system of the high voltage regulator circuit. The excessive anode voltage protector circuit consists of IC502 (2/2), D902, D502, D517, D518, D519 and their peripheral circuit components.
The anode voltage is monitored from the pulse voltage that is developed across the tertiary winding of the FBT. This voltage is rectified by D801 of the PC board and by C801 of the PA board to monitor the anode voltage.
The monitoring voltage is inputted to the negative polarity (-) input terminal of the comparator IC502 (2/2) while the protector operating voltage that is obtained by voltage-dividing the reference voltage is input to the positive polarity (+) input terminal. Because the negative input terminal has a lower voltage than the positive input terminal, the comparator output goes high normally. If anode voltage increases due to failure of the parts of the feedback loop system of the high voltage regulator circuit, the voltage across the tertiary winding also increases. As the result, negative polarity input terminal of the comparator IC502 (2/2) also increases. When it exceeds the protector operating voltage, the comparator output goes low that turns off IC501 trigger input that is the control IC, through D502, D501 and Q502. As the result the HD DRIVE signal is turned off so that oscillation is stopped. Because the PWM output signal is supplied from IC501, the switching FET Q102 is also turned off that stops supplying the power to the converter. As the result, the high voltage converter stops its operation and the high voltage output is held down. IC501 has the latch function with D517 and D518 so that the low state is maintained once the comparator output goes low.

### 3. Excessive Anode Current Protector Circuit

The excessive anode current protector circuit is installed in this model for the purpose of protecting CRT when an excessive anode current flows through the CRT due to failure of the current limiting circuit's (ABL circuit's) voltage detection system and control system. The excessive anode current protector circuit consists of IC502 (1/2), D901, D512, D513 and their peripheral circuit components. The anode current is monitored in the form of voltage level as the anode current flowing through the high voltage coil of FBT is converted from current to voltage by R804 of the PC board.

The voltage difference between the converted voltage and the reference voltage D901, is divided by the resistance-type-voltage-divider R514 and R515, and is sent to the positive (+) terminal of the comparator IC502 (1/2). At the same time, the reference voltage D901 is divided by the resistance-type-voltage-divider R518, R522 and R517, and is applied to the negative (-) input terminal as the protector operating voltage. As the anode current flows, the converted voltage decreases and the input voltage to the positive (+) input terminal decreases and the current decreases.

As long as the ABL circuit operates, the positive (+) input terminal remains higher than the negative (-) input terminal so that the comparator output is kept high.

If the anode current flows due to failure of the ABL circuit and the positive (+) input terminal exceeds the ABL setting voltage of the comparator and becomes lower than the protector setting voltage, the comparator output goes low. As the result Q501 is turned on through D502. The high voltage converter stops operating in the same manner as the over-voltage protector so that the high voltage output is held down.

IC501 (1/2) has the latch function with D512 and D513. If the comparator output goes low, the level is maintained

### 4. Dynamic Focus Circuit

The DFX signal for the vertical line correction (for X-axis) and the DFY signal for the horizontal line correction (for Y-axis) are inputted from the E board.

The DFX signal is amplified by Q301, Q302, Q303, Q304 and Q305, and is stepped up by T301. The DFY signal is amplified by Q321 and Q322.

The amplified DFX and DFY output signals are drive the focus pack so that the GM voltage that is the G4 voltage of CRT is modulated until the optimum focus is obtained over the entire screen.

### 5. Screen (G2) Voltage Regulator Circuit

The screen regulator circuit consists of IC401 (1/2), Q201 and Q202.

The G2 regulator circuit is controlled by the G2 control voltage that is supplied from the BK board so that the optimum cathode voltage is obtained.

At the same time, the power supply voltage for this circuit is the high voltage that is obtained by rectifying the drain pulse voltage at Q109.

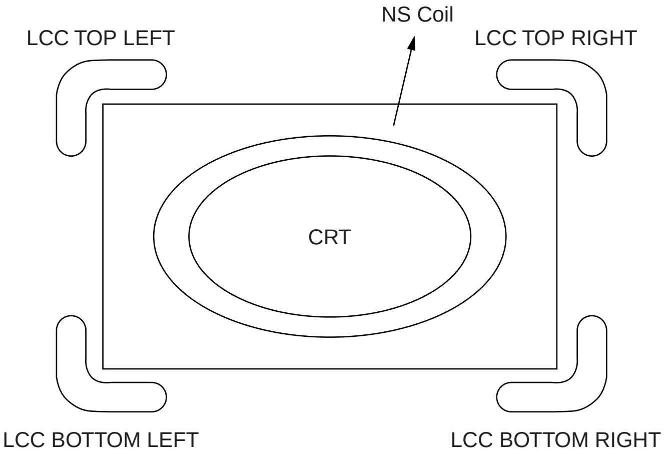
### 6. H. STAT Circuit (Only for 20 inch display)

The H. STAT circuit consists of IC401 (1/2) and Q401. The horizontal static convergence voltage can be varied using the H. STAT control voltage that is supplied from Q401. However, because the variable range is very narrow, it is used only for fine adjustment.

## 7. Beam Landing Correction Circuit (Only 24 inch)

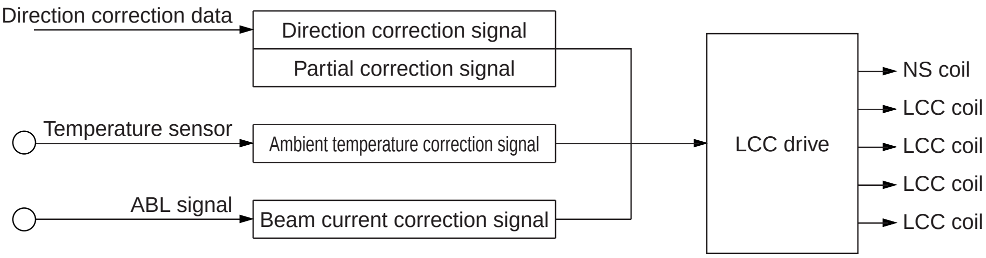
This monitor has the five beam landing correction coils (referred to as LCC = Landing Correction Coil and NS Coil = North South Coil) around the CRT as shown. The optimum beam landing is maintained by flowing the appropriate correction currents through these coils. The following items are corrected by the beam landing correction.

1. Correction of the beam landing that changes in accordance with the direction (horizontal terrestrial magnetism) in which the monitor is installed. The vertical terrestrial magnetism is corrected by the purity magnets that are placed inside the monitor.
2. Correction of the beam landing that changes in accordance with the change of ambient temperature.
3. Correction of the beam landing that changes in accordance with the change of the average beam current.
4. Correction of the beam landing characteristics of the CRT.
5. Correction of the beam landing that changes in accordance with the partial change of surrounding magnetic field.


NS Coil
LCC TOP LEFT
LCC TOP RIGHT
CRT
LCC BOTTOM LEFT
LCC BOTTOM RIGHT

(Beam landing correction when viewed from the CRT side)

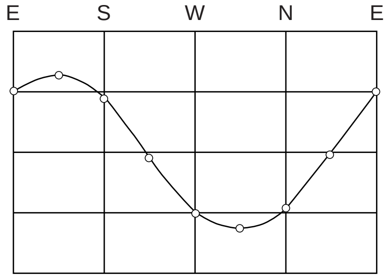
Basic structure of the correction circuit is shown below. The respective blocks are described one after another.


Direction correction data
Direction correction signal
Partial correction signal
Temperature sensor
Ambient temperature correction signal
ABL signal
Beam current correction signal
LCC drive
NS coil
LCC coil
LCC coil
LCC coil
LCC coil

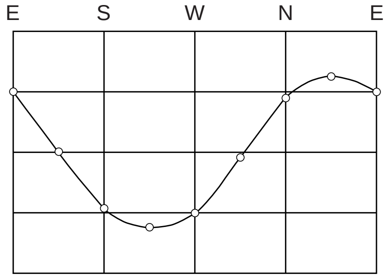
### Direction correction signal

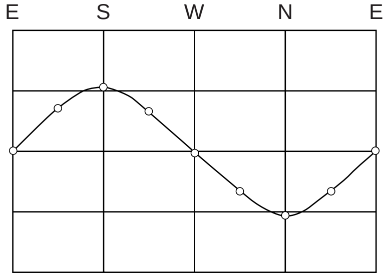
State of beam landing is affected by the direction in which the monitor is installed. The change of beam landing can be corrected by flowing the sinusoidal current through the five correction coils as show below.

LCC TOP LEFT

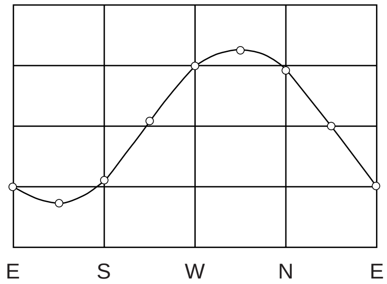


LCC TOP RIGHT

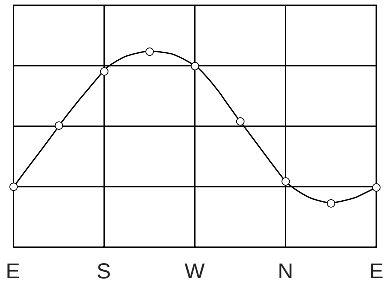




NC Coil



LCC BOTTOM LEFT



LCC BOTTOM RIGHT

In this monitor, the eight different direction correction currents as shown above corresponding to the eight terrestrial directions are stored as the pattern data in the internal memory so that an appropriate pattern that corresponds to the installation direction, can be called.

The pattern that is called from the internal memory, is sent from the microprocessor of the monitor to IC711 where the digital correction data is D/A converted. The DC output signal from the D/A converter is added in the LCC drive block.

MENU/SET UP/WHITE UNIFORMITY (1/2)
/MANUAL

```
          MANUAL

DIRECTION               EAST
FINE ADJUST
    NS                   100
    TOP LEFT             100
    TOP RIGHT            100
    BOTTOM LEFT          100
    BOTTOM RIGHT         100
    RESET                100
```

**Menu for landing correction.**

The menu for landing correction is shown. The landing pattern that corresponds to the terrestrial direction can be called from the DIRECTION item of the menu. Any desired pattern can be selected from the following eight patterns.

NORTH, NORTH EAST
EAST, SOUTH EAST
SOUTH, SOUTH WEST
WEST, NORTH WEST

Select an appropriate direction from the eight patterns that provides most uniform landing over the entire screen.

### Partial correction signal

Some beam landing cannot be corrected by the direction correction alone in some cases depending on the installation environment of the monitor. The partial correction is used for fine adjustment in such a case as described above. The five registers are prepared for the five coils (NS, TOP LEFT, TOP RIGHT, BOTTOM LEFT and ABOTTOM RIGHT) for the FINE adjustment, that can be selected by the landing correction menu as described in the previous paragraph. The beam landing can be finely adjusted by adjusting these coils.

The data that prepared by these coils for fine adjustment by the MENU, is sent to IC711 in the same way and is added in the LCC drive block.

### - About Automatic Adjustment of Direction Correction and Partial Correction -

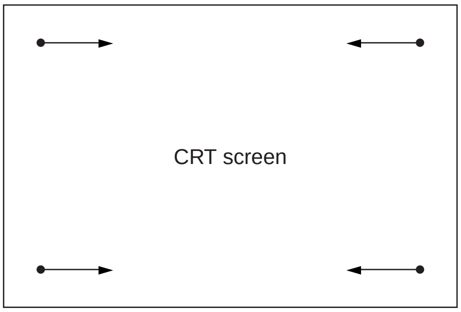
In this monitor, the direction correction and the partial correction can be automatically performed using the option probe (BKM-14L) as follows.

Select AUTO using the MENU (MENU/SET UP/WHITE UNIFORMITY (1/2)). Connect the option probe (BKM-14L) and start the automatic adjustment. The optimum directional correction data and the optimum partial correction data can be automatically calculated and set in the monitor based on the luminance value on the CRT that is measured by the optional probe. The direction correction and the partial correction are sent to IC711 in the same way as in the MANUAL adjustment mode to drive the correction circuit.

### Ambient temperature correction signal

As the ambient temperature of the monitor increases, the beam landing changes in the directions as shown in the illustration. It is assumed that amount of the beam landing change is linear with respect to the change of ambient temperature. Then the correction signal that changes linearly with the change of ambient temperature, is created and is added to the LCC drive at the four corners of CRT. The temperature sensor the diode D600 that detects temperature using the temperature characteristics of the diode. The detected temperature signal is the DC voltage that is outputted from IC605 pin-7 and added at the LCC drive block.

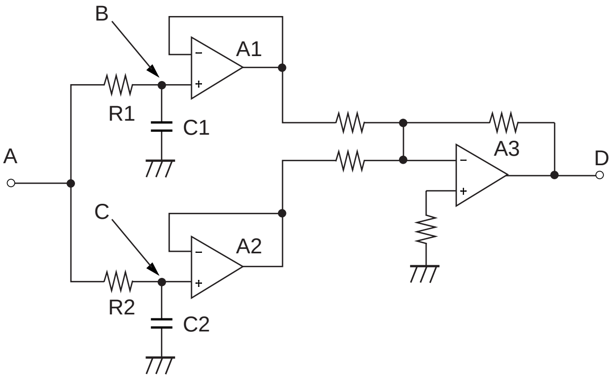
Because the temperature sensor diode D600 is located in the PA board, not only the ambient temperature change but also the temperature inside the monitor is also detected so that difference between the detected temperature and the ambient temperature is created. The circuit that is prepared to cancel the difference is connected to IC622 pin-5.

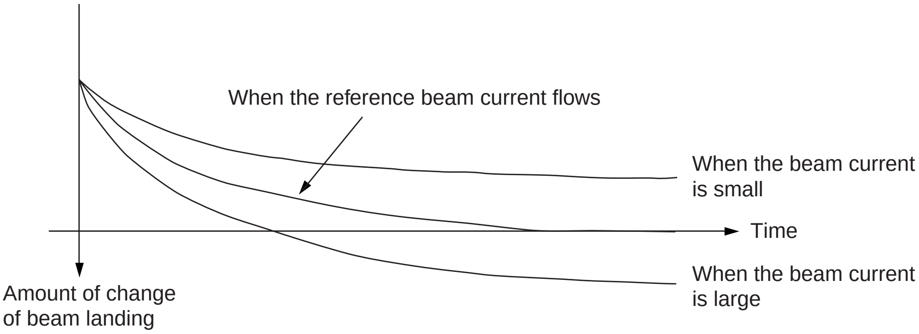


Directions of the landing change when the ambient temperature increases.
(Directions are inverted when the ambient temperature decreases.)

## Beam current correction signal

When the average beam current changes, the constituent parts inside the CRT receive the thermal change that results in a slow change of the beam landing condition.  The correction waveform that corrects the landing change, is created using the integration characteristics of the resistors and capacitors as shown.





Amount of change of beam landing after the main power of the monitor is turned on

The ABL signal that corresponds to the beam current, is inputted from IC805 pin-1 to the point “A” in the illustration.  The integrated voltage of the ABL signal appears at the points “B” and “C”.  These voltages are buffered by the voltage followers A1 and A2, and are mixed and inverted by A3.  In this circuit the resistor R1 and the capacitor C1 provide the longer time constant while R2 and C2 provide the shorter time constant so that the slower curve and the steeper curve are mixed in order to resemble with the amount of change of the beam landing.  The output at point “D” is added to the LCC drive.

In the actual circuit, the two separate circuit systems are prepared to resemble with the amount of change of the beam landing.  Outputs from IC606 pin-1 and pn-7 generates the waveforms that resemble with the amount of change of the beam landing at the four corners.

## LCC drive block

The respective correction signals are added and inverted by IC620, IC621 and IC622 (1/2) for respective five coils.  These signals are outputted to the optional amplifiers IC700, IC701 and IC702 via switches IC623 and IC624, which drive the respective correction coils.

## 6-3. BC Board

### 1. Outline

The BC board controls the entire system with the system control CPU. The BC board has the function of communication with external equipment, communication with system controller, generation of internal signal, creation of safe area display, generation of H. sync and V. sync signal for deflection circuit and the on-screen display function.

### 2. CPU operation block

IC1 is the system control CPU that controls the entire system. IC3 is the ROM that stores the system control software. IC4 is the SRAM that stores the adjustment data such as picture size. Because the memory contents of the SRAM is cleared when the main power is turned, it is backed up by the back battery (BAT1). When the backup battery is going to be replaced, the data contents are not cleared if the BAT1 is replaced within five minutes. IC7 is the EEP-ROM in which the model data (such as model name, etc.,) is stored. The data in the EEP-ROM is kept stored even when the main power is turned off. Communication with the sub-CPUs on the other boards is performed by the MIS0, MOSI, SCLK and SLOT0 to SLOT7 signals. The counter-part of communication is selected by the SLOT0 to SLOT7 signals.

### 3. Communication with the control block (BKM-10R)>

The communication with the control block (BKM-10R) is performed by the RS-422 transceiver (IC14). The data such as key input data, LED turning-on data and memory card data are communicated.

### 4. Communication with BKM-11R

The communication with the control block (BKM-11R) is performed by the RS-232 transceiver (IC36).

### 5. Remote circuit, ISR circuit

The remote control using the serial communication is performed by the RS-485 transceiver (IC25, IC26). The ISR is performed by the RS-232 transceiver (IC36). The parallel remote (REMOTE2) is inputted to IC1 through the buffer (IC550, IC551) and I/O expander (IC5).

### 6. PLD (IC803) circuit

IC803 is a PLD. It is used as the configuration by the configuration ROM (IC890). The fundamental clock signal is the clock signal that is outputted from PLL IC (IC800). When the internal signal is going to be outputted, the 27 MHz clock that is generated by IC822 is used as the fundamental clock signal.
The clock signal for communication is generated by PLD. The clock signal that is outputted from IC809 pin-2 is frequency-divided inside the PLD. The clock signal that is generated by dividing the clock frequency, becomes the fundamental clock signal for IC22, IC23 and IC24.
The PLD generates the H. sync (BC HS out) and the V. sync (BC VS out) signals that are used as the reference for deflection circuit inside the PLD. At the same time, generation of the H. delay and V. delay timing signals, and phase adjustment to shift the H. sync to the front in the case of the 1080/481 signals.
The safe area display is generated by the PLD. The SAD output and the on-screen display (OSD) are inputted to the OR-gate circuit. Output of the OR-gate is supplied to external circuits.
The internal signals are generated from the 27 MHz clock. Data of the internal signals is stored in the video RAM (IC804). The video RAM data is supplied from the CPU.
The sample pulse that is used for automatic chroma phase adjustment, is also created here.

### 7. Internal signal output circuit

The hatch signal and the dot signals are sent to IC810 pin-9 where these signals are converted to the signal level that is sent to Q830. The gray scale signal, all white signal and the PLUGE signals are D/A converted by IC806 and are outputted through IC810 and Q830. The internal H. sync signal is outputted fromIC104 pin-3 and the internal V. sync signal is outputted from IC104 pin-6.

### 8. Closed caption signal

IC124 is the decoder of the closed caption. When the SDI 4:2:2 signal is displayed, the video signal does not contain the sync signal. Therefore, the composite sync is added by IC106 (1/3). IC107 and IC108 are the composite signal generation circuit.

### 9. VITC circuit

IC20, IC29, IC21 and CN7 are the VITC circuit. The VITC circuit is operated by connecting the BC1 (option) board.

### 10. On-screen Display Circuit

IC805 is the on-screen display IC. Output of IC805 is OR-gated with the SAD and closed-caption signal. The OR-gate output is sent to other circuit as the CHR signal.

### 11. H. sync signal generator circuit for 15 kHz signal

IC107 generates the H. sync signal generator circuit for 15 kHz signal. Because the H. sync signal of PLD deteriorates of its skew during the fast forward mode of VCR, the H. sync signal is separately created for the 15 kHz signal. Rise-up of this signal is the timing of the H. delay.

## 6-4. G Board

Power supply of this monitor consists of the following three switching regulators.

1. The power factor improvement regulator that is used to comply with the power supply high frequency harmonics.
2. The standby regulator that supplies the power to the control system (such as CPU) and supplies the heater power to CRT.
3. The main regulator that supplies the powers, which are required by the signal system, by, the processing circuit of deflection and high voltage system, and by the output circuit.

### 1. The power factor improvement block

The power factor improvement circuit of this monitor uses the current-threshold type boost-chopper system. Therefore, the output voltage Vpfc is always higher than the peak value of the input power voltage. Vpfc of this monitor is set for about 370 V.

The power factor improvement circuit consists of IC1, T3, C16, C17 and the related components.

IC1 is a module IC in which the control IC, the switching FET, the boost diode and input/output voltage detectors are built in.

Basic operation of the power factor improvement block is as follows. When the POWER signal goes Low and the Vcc power supply is supplied to IC1, the FET is turned on and an electric current starts to flow in the primary winding of T3 and the FET. This current increases with the slope of Vin (rms)/L where L is the primary side inductance of T3. This FET current is monitored by the source current detection resistor that is connected between pin-4 and pin-7 of IC1. When this FET current reaches the set value that is specified by the multiplier inside the control IC, the FET is turned off. Then an electric current flow through the boost diode where the current decreases with the slope of -(Vpfc - Vin (rms))/L. When this current reaches 0, the FET is turned on. The current-threshold operation is realized by the above described circuit operations.

In other words, the circuit operations that are described as one operation cycle, are performed all the time. When the circuit operations as described above, are observed only during the half-wave period of commercial power line frequency, the ON/OFF timing of the FET is controlled by the control IC so that the envelope of the peak values of the choke current is proportional to the half-wave of the sine waveform of the power line frequency. As the result of this control, waveform of the input voltage and that of the output voltage become similar so that the power factor is improved. This circuit does not operate during the standby mode.

### 2. Standby regulator

The standby regulator consists mainly of IC101, IC102, PH101, T101 and the secondary side rectifier circuit of T101. IC101 has the built-in switching FET, the PWM controller and protection circuit. The control terminal of IC101 receives the control signal from IC104 that performs the constant voltage control over the STBY5V line through the isolator P101. The internal FET is PWM-switched by the control signal so that the STBY5V in the secondary side of T101 is stabilized. At the same time, the floating 7.5 V and -7 V are generated as the other supply voltages.

The floating 7.5 V is regulated to 6.3 V by IC102 to be used for the heater power and is supplied to the C board. The heater power is switched ON/OFF by IC102 that is controlled by the HV CTRL signal of the E board. -7 V power is stabilized to -5 V by IC103 and is supplied to the comparator IC203.

## 3. Main regulator

The separately excited current composite resonance system is used for the main regulator. The high efficiency and low noise power regulation is realized. The main regulator consists mainly of IC210, IC202, T201, C210, C211 and the secondary side rectifier circuit of T201. IC210 is a multiple chip module in which the four chips of the control block, the FET drive block and the switching FET block (high side and low side) are connected by bonding wire inside the IC. IC210 has the following circuit configuration. A half-bridge rectifier is constructed by the two FET switches, the two capacitors C210 and C211, and the transformer T210 for the input voltage Vpfc. The secondary side of the transformer has the center-tapped full wave rectifier. IC210 receives the control signal from IC202 that performs the constant voltage control over the +135 V line through the isolator PH210. The control signal changes the oscillating frequency of IC210 so that the constant voltage control is realized.

The secondary side of T201 generates not only +135 V but also +15 V, -15 V, +6 V and -6 V powers that are required by the respective circuits.

## 4. Over-voltage protection circuit and over-current protection circuit

The respective voltage lines of the main power supply and the STBY5V line of the standby power supply have the over-current protection circuit that protects the power supply when an abnormality occurs in the respective loads. The +135 V line and the STBY55V line have the over-current protection circuit that protects the power supplies and the loads when an abnormality occurs in the voltage feedback system. The standby power supply detects the over-current by IC802 (4/4) and detects over-voltage by IC802 (2/4). When the over-current or over-voltage is detected, oscillation of IC101 is stopped by the latch circuit Q101 and Q102 through the isolator PH801.

When the main power supply has an abnormality, Q901 is turned on, and Q5 and Q6 are turned off through the isolator PH901 so that the main power supply is stopped of its operation by turning off the Vcc power that is supplied to IC1 and IC201. The protector mode is notified to the CPU on the E board using the encoder/latch circuit that consists of Q801 through Q813.

## 6-5. E Board and EA Board

### 1. Horizontal system

- H. delay circuit

IC2002 generates the positive polarity pulse as it is triggered by the fall-down edge of the H. sync signal that is supplied from the BC board. This positive polarity pulse is inputted to IC2001 (deflection processor). However, because the H. sync from the BC board is inverted during the H. delay mode, the positive polarity pulse is delayed by about 1/4 of the horizontal period i.e., the H. sync pulse width.

- AFC circuit

IC2001 is the deflection processor IC that performs sync and deflection signal processing. IC2001 is automatically pulled into the input sync signal. IC2001 compares phase and frequency so that the H. OSC signal of pin-10 is locked to the positive polarity pulse that is supplied from the H. delay circuit to pin-38. IC2001 also outputs the H. DRIVE pulse from pin-21 so that the horizontal deflection output pulse (AFC.P) that is wave-shaped by Q25 to Q28 and IC1005 is synchronized with the H. OSC signal.
The H. DRIVE pulse has the function of the horizontal picture phase adjustment (H. PHASE) function, the horizontal pin cushion correction (H PIN BAL) function and the horizontal key balance correction (H KEY BAL) function.
The H. PIN voltage that is outputted from pin-31 has the function to correct the horizontal pin distortion (H PIN) and key distortion (H KEY).

- Horizontal deflection circuit

The H.DRIVE pulse performs switching of Q2 (H OUT) via Q1 and T1 (HDT) to drive the H. DY. In order to improve power supply efficiency of the horizontal output circuit, the power supply is generated by switching Q703 with the PWM pulse that is generated by IC701 and IC702. The H. WIDTH voltage and the H. DY current that is detected in the form of the detection voltage and is converted by T4 and R42 are inputted to IC701 so that power supply voltage is controlled.
The identification signal that identifies the horizontal frequency, which is outputted from IC7001, is used to select the S-curve capacitors C10 to C17, the horizontal linearity coils L1 and L2, and the resonance capacitors C6, C25 and C26.

- Horizontal centering circuit

The positive and negative polarity power supplies of the horizontal centering circuit are generated from the secondary output of T2 (HOT). In the horizontal centering circuit (IC101, IC102, Q101), the DC current that flows through the H. DY is controlled by the H. CENT signal that is supplied from IC7005.

- Horizontal linearity circuit

The H. LIN signal that is outputted from IC205 on the D board is amplified by Q201 to Q207, drives T3 (HLT) to flow the horizontal linearity correction current.

## 2. Vertical system

- V DELAY circuit

IC2002 generates the positive polarity pulse using the fall-down edge of the V. sync that is supplied from the BC board as the trigger signal.  This positive polarity pulse is inputted to IC2001.  However, because polarity of the V. sync signal is inverted by IC1002 during the V. DELAY mode, the positive polarity pulse is delayed by about 1/2 of the vertical period i.e., the V. sync pulse width.

- V OSC circuit

IC2001 generates the sawtooth wave V. DRIVE signal of the vertical cycle as it oscillates in synchronism with the positive polarity pulse that is supplied from the V DELAY circuit.
The V. DRIVE signal has the vertical picture size (V SIZE) adjustment function, the vertical picture position (V CENTER) adjustment function and the vertical linearity balance (V LIN BAL) correction function.

- Vertical deflection circuit

The V. DRIVE signal and the V. CENT signal that are outputted from IC2001 are inputted to IC601 to drive the V. DY.

## 3. Other output circuits

- Rotation circuit

The rotation voltage that is outputted from IC7005 is sent to IC401 that controls the current flowing through the rotation coil of the DY.

- Landing circuit (20 inch models only)

The landing voltage that is outputted from IC7005 is sent to IC801 that controls the current flowing through the landing correction coil.

- H. STAT circuit (24 inch models only)

The H. STAT voltage that is outputted from IC7005 is sent to IC801 so that the current flowing through the H. STAT coil of the DY is controlled.

- V convergence circuit

The V. CONV signal that is outputted from IC204 of the D board is amplified by IC801 that drives NTC (20 inch models) or the V. STAT coil of DY (24 inch models).

## 4. Protection circuits

- H. STOP, V. STOP detection circuit

The H.DY current is converted to a voltage value by T4 and R42. The voltage thus obtained is sent to IC501 pin-3 on the EA board and is compared with the reference voltage of pin-2. The detected voltage is inputted to IC501 pin-3 of the EA board where it is compared with the reference voltage of pin-2. When the horizontal deflection is stopped and the input parabolic voltage is not inputted any more, the voltage at pin-3 becomes lower than the reference voltage so that the H. STOP output signal from pin-1 goes “LOW”.

The sawtooth wave voltage that is generated across R606 and R613 from the V. DY current is amplified by IC550 and is used to switch Q550. Because the capacitor C553 keeps discharging as long the sawtooth wave is input, IC501 pin-6 voltage of EA board does not reach the reference voltage that is inputted to pin-5. However, if the vertical deflection is stopped and the sawtooth wave is not inputted any more, IC501 pin-6 voltage exceeds the reference voltage at pin-5 and the V. STOP output signal from pin-7 goes LOW”.

When either the H. STOP signal or the V. STOP signal goes “LOW”, Q502 of the EA board is turned off and Q504 of the EA board is turned on that stops the HV DRV pulse. Because Q503 on the EA board is turned on at the same time, Q505, Q506, Q508 are turned on so that the E_PROT signal goes “HIGH”. Then the power supply circuit enters the standby state.

- Over-current protection circuit for the power supply circuit of the horizontal deflection circuit

When the current flowing in the power supply of the horizontal deflection circuit becomes larger abnormally, Q702 is turned on. Q512 to Q514 are also turned on the +B. PROT signal goes “LOW”. At the same time Q509 is turned on that sets the E_PROT signal to “HIGH”. As the result, the power supply circuit enters the standby state.

## 5. Control circuit

IC7001 (sub-CPU) perform the serial communication with IC1 (system control CPU) of the BC board using the three signals of MISO, MOSI and SCLK. As the result of the communication, IC7001 outputs the control signals such as POWER ON, DEGUASS, H. DELAY, V. DELAY, etc., and also outputs the result of identification of horizontal frequency. IC7001 reads the adjustment data from IC7004, IC7006 to IC7010 (EEPROM), and controls IC2001 and IC7005, and also controls IC202 and IC206 on the D board, and controls IC710 and IC711 (24 inch models) of the PA board. The following protect detection signals are transmitted from IC7001 to IC1 of the BK board.

H. STOP, V. STOP, +B. PROT, HV_OVP, IK_PROT, HV_OCP, G. PROT1 to G. PROT4

## 6-6. D Board

### 1. Fundamental waveform signals generator circuit

The fundamental waveform signals that are required to generate the deflection correction waveforms are generated by this circuit.
IC101 generates the fundamental waveform signals of H. SAW-, H. PARA- and H. SIN- having the horizontal cycle from the pulse (AFC.P) that is output from the horizontal deflection after wave-shaping with Q25 to Q28 and IC1005 of the E board. IC102 generates the fundamental waveform signals of V. SAW-, V. PARA-, V. SIN- and V.4TH- having the vertical cycle from the vertical period pulse (V.BLK.P) that is generated from IC2001, IC2301 (4/4) and IC2303 of the E board. These waveforms are inverted by IC103 and IC104 to generate the H. SAW, H. SIN. V. SAW and V. PARA+ signals.
At the same time, the V. SQ signal having the 1/2 vertical rate pulse width is generated from the V. SAW signal at IC105 (1/2). The V. PARA.T and the V.PARA.B signals are generated from the V. SQ signal and the V. PARA+ signals by IC205.

### 2. D/A converter

The fundamental waveforms that are outputted from IC102 and IC104, and the V. PARA.T and the V.PARA.B signals that are outputted from IC205, are sent to IC202 and IC206 (D/A converter) where these signals modulate the D/A conversion reference voltage to generate the following signals.
The signal level of the following signals can be varied by the serial data that is supplied from IC7001 (sub CPU) of the E board. The adjustment voltages are also outputted at the same time.

- Modulated by the V. SAW signal
  DFY. PHASE
- Modulated by the V. PARA+ signal
  H. CENTER. BOW, H. MID. PIN, DFX. CORNER and DFY. T&B
- Modulated by the V. Sin signal
  V. LIN. BAL2
- Modulated by the V. PARA.T signal
  V. CONV. TOP
- Modulated by the V. PARA.B signal
  V. CONV. BOT
- Adjustment voltages
  V. STAT, H. STAT.C, H. LIN. BAL, H. LIN. GAIN, DFX. SIDE, and DFX. PHASE

### 3. Vertical convergence correction signal generator circuit

The V. CONV signal is generated by adding and inverting the V. CONV. TOP, V. CONV. BOT and V. STAT signals.

### 4. Horizontal linearity correction signal generator circuit

The H. LIN signal is generated by adding the two signals by IC205: one is generated by modulating the H. PARA- signal with the added outputs of the H. LIN. BAL and H. MID. PIN signals at IC203 (1/2). The other signal is generated by adding the H. LIN. GAIN and H. CENER. BOW signals by IC203 (2/2).

### 5. Dynamic focus signal generator circuit

The DFX signal is generated by adding the two signals by IC205: one is generated by modulating the H. PARA- signal with the added outputs of the DFX. SIDE, DFX. CORNER and V. PARA- signals at IC204 (2/2). The other signal is generated by modulating the H. SAW signal with the DFX. PHASE by IC205.
The DFY signal is generated by adding the signals of DFX. PHASE, DFY. T&B and V. PARA+ signals by IC207 (1/2)

## 6-7. BUF Board (only 24 inch)

The BUF board sends the dynamic correction signals to the GAIN control terminals of the R. G. B. channels in the BK (VIDEO OUT) board corresponding the respective positions of the CRT screen positions in order to improve the luminance errors due to non-uniformity of the CRTs. This provides the high quality and uniform white screen over the entire areas from the center up to the corners of the CRT screen.

### 1. Interface

The interface with the CPU is established using the serial communication of 3-wire bus. Writing and reading to and from the internal register are performed using the signals of A3 to A0, D7 to D0, _WR and _RD signals.
Various data such as board ID and others are stored in the EEPROM IC903.

### 2. SRAM memory specifications

The BUF board has the data structure consisting of 8-bit data for each of the R. G. B. channels (horizontal 32 x vertical 16) for every format of each scan. The formats and scans can be switched by specifying the SRAM address MA16 to MA11. The SRAM is backed up by the lithium battery.

### 3. PLL

The AFC.P pulse coming from the deflection circuit and the H.OUT signal coming from the H address generator circuit inside the PLD are inputted to the PLL IC104 where PLL is established. The fundamental CLK for the data processing circuit is obtained from the PLL output.

### 4. Data processing circuit

The desired data can be read from the SRAM by accessing the SRAM using the addresses of H8 to H0 and V3 to V0 that are generated by the H address generator circuit and the V address generator circuit that correspond to the raster scanning. The read-out data form the SRAM is D/A converted, passed through a low-pass filter and clamped to generate the correction waveforms. The correction waveforms are sent to the respective GAIN control terminal of Red, Green and Blue of the BK (VIDEO OUT) board. The linear interpolation between the data in the direction is created. At the same the horizontal interpolation is created by implementing the linear interpolation between the horizontal data.
Data read-out requires the real time processing. However, because data must be re-written in the event of adjustment, the interrupt processing is used to stop read-out from the SRAM and data is written into the SRAM.

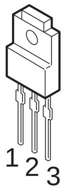
### 5. Cursor generator circuit

For the purpose of user interface, correlation between the adjustment position and the correction waveform is established when the cursor is placed on the CHAR_BLK line.
The cursor position can be changed by specifying the desired SRAM address of MA10 to MA0. The number of data is 32 x 16 per every screen. Because amount of data is too many and the cursor area for a data is too small, several data in the vertical and horizontal directions are grouped together as one data block. Size of the cursor is changed in accordance with the size of the group data. This grouping can shorten the adjustment time. In addition to grouping, the linear interpolation is established between the several data in the horizontal and vertical directions within one block by means of software. (It means that the data are interpolated by means of both software and hardware.)

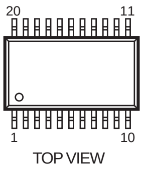
# Section 7

# Semiconductors

**BA05FP-E2**
**BA12FP-E2**



**BA9756FS-E2**


20
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TOP VIEW

**CLC520AJE-L**
**LM339NS**
**LM339NS-E20**
**MC74HC00AF**
**MC74HC02AF-T2**
**MC74HC125AF**
**MC74HC125AFEL**
**MC74HC14AF-T2**
**MC74HC14AFEL**
**MC74HC74AFEL**
**MC74HC86AFEL**
**MC74HC86F**
**SN74HC02ANS**
**SN74HC05ANS**
**SN74HC05ANSR**
**SN74HC14ANS**
**SN74LS07NS**
**TC74HC11AF(EL)**
**TC74HC30AF**
**TC74VHC00F**
**TC74VHC04F**
**TC74VHC125F**
**TC74VHC125FT(EL)**
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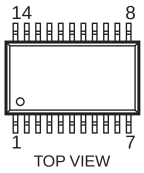
**TLC2932IPW**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TOP VIEW

**CXA1211M**
**EL2082CS-TE2**
**EL4094CS-TE2**
**LM358PS**
**LM358PSR**
**LM393PS**
**LT1252CS8**
**MM1026BFB**
**NJM4558M-T2**
**TC7W32FU**
**TC7W74FU**
**TL082CPS-E20**
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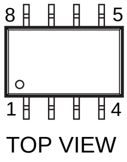
**X25040SI**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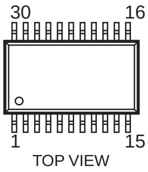
TOP VIEW

**CXA1726AM**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TOP VIEW

**CXA1875AM-T4**
**MAX202CSE**
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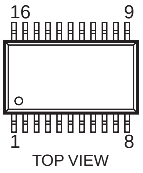
**MC74HC175FEL**
**MC74HC4051F**
**MC74HC4053F**
**MC74HC4053FEL**
**MC74HC4538AF**
**MC74HC4538AF-T2**
**MC74HC4538AFEL**
**MC74HC4538F**
**TC74VHC123AF**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TOP VIEW

**CXD1095BQ**
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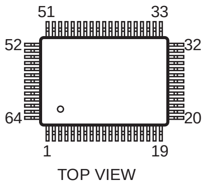
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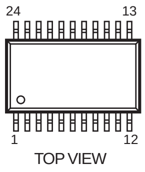
TOP VIEW

**CXD1171M**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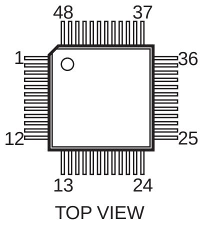
TOP VIEW

**CXD1178Q**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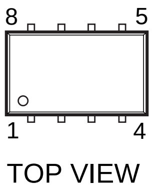
TOP VIEW

**EPC1PC8**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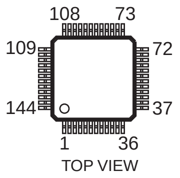
**EPF10K20TC144-3**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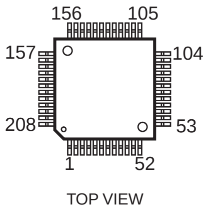
TOP VIEW

**EPF10K30RC208-4**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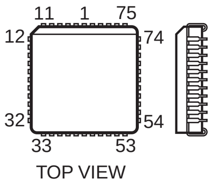
1
52
TOP VIEW

**HD6475368CP-10**


11
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75
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74
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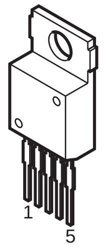
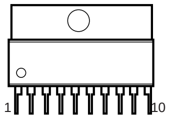
54
33
53
TOP VIEW

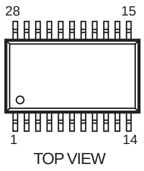
**LA6500-FA**



**LA6510**



**LC35256DM-70-TLM**
**MB90096PF-G-127-BND-ER**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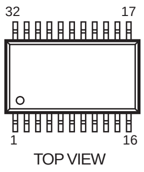
TOP VIEW

**LC361000AMLL-70-TLA**


32
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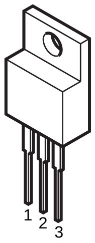
TOP VIEW

**LM2940CT-5.0**
**NJM7812FA**
**TOP224Y-BB**
**UPC2405HF**



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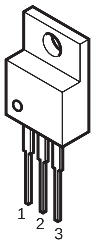
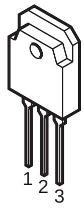
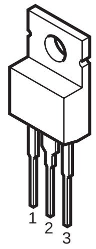


# IC

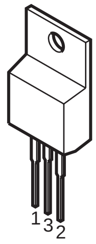
**LM2990T-5.0**



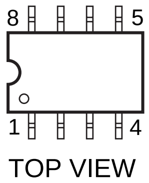
**LM7815CT**



**LM7912CT**
**NJM7912FA**



**MAX487CSA-TE2**
**MAX487ECSA-TE2**
**MAX490ECSA**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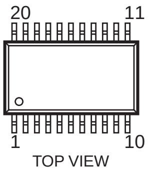
TOP VIEW

**MB88346BPFV**
**MB88346BPFV-EF**
**MB88351PFV**
**MB88351PFV-ER**
**MC74HC244AF**
**MC74HC244AFEL**


20
11
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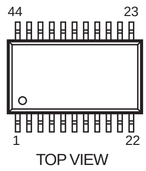
TOP VIEW

**MBM29F400BC-90PF**


44
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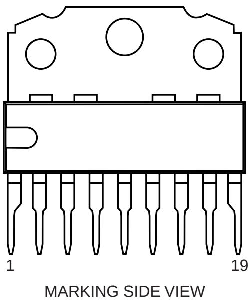
22
TOP VIEW

**MCR5102**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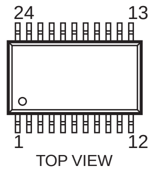
19
MARKING SIDE VIEW

**MP7670AS-TE2**


24
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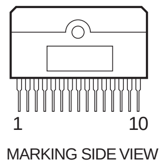
TOP VIEW

**MZ1540**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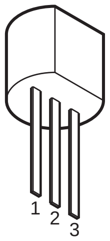
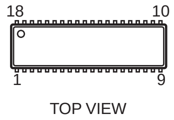
MARKING SIDE VIEW

**NJM79L05A**
**NJM79L05A-T1**
**NJM79L05A-T3**



**PA0053B**
**Z8622812PSC**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10
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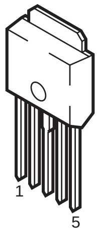
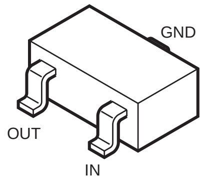
9
TOP VIEW

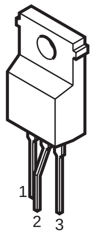
**PQ12TZ5U**



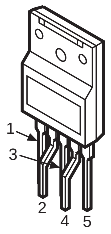
**PST529CMT**
**PST529CMT-T1**



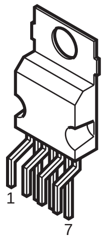
**SE-135N**
**SE135N-LF12**



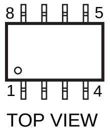
**SI-3050F**



**STV9379**



**TC3W03FU**
**TC4W53FU**
**TC7W00FU**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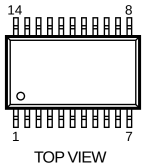
TOP VIEW

**TC74VHC08FT(EL)**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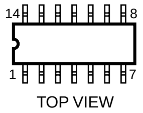
TOP VIEW

**TC74VHCT04AF(EL)**
**TC74VHCT08AF(EL)**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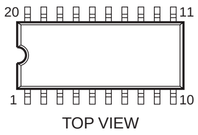
TOP VIEW

**TC74VHCT245AF(EL)**
**TC74VHCT574AF(EL)**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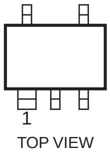
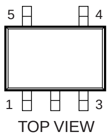
TOP VIEW

**TC7S00FU(TE85R)**
**TC7S02FU(TE85R)**
**TC7S08FU(TE85R)**
**TC7S32FU(TE85R)**
**TC7S86F(TE85R)**
**TC7S86F-TE85L**
**TC7W04FU**
**TC7W08FU**



**TC7SHU04FU**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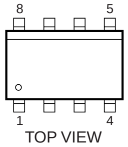
TOP VIEW

**TC7W32F**
**TC7W32F(TE12R)**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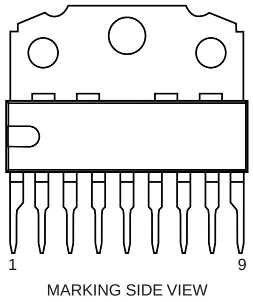
TOP VIEW

**TDA6101Q/N3**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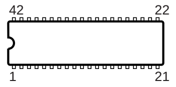
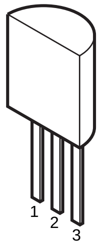
MARKING SIDE VIEW

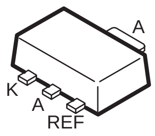
**TDA9106**



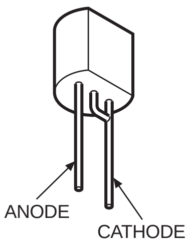
**UPC1093J**
**UPC1093J-T**



**UPC1093T**
**UPC1093T-E1**



**UPC574J**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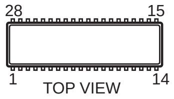
CATHODE

**UPD71051GU-10-E2**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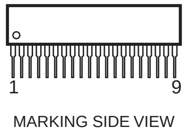
TOP VIEW

**VPJ05**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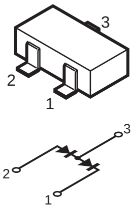
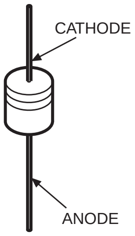
MARKING SIDE VIEW

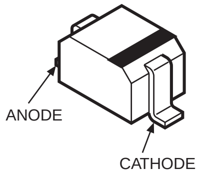
**1PS226-115**



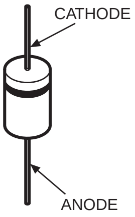
**1SS119-25**
**1SS119-25TD**
**D1NS4**
**D1NS4-TA2**
**EGP10GPKG23**
**RD24ES-T1B2**
**RD24ESB3**
**UF4005PKG23**


CATHODE
ANODE

**1SS352**
**1SS352-TPH3**
**MA111-(K8).S0**
**MA111-TX**
**RD10SB1**
**RD12SB-T1**
**RD12SB1-T1**
**RD13SB2**
**RD13SB2-T1**
**RD2.4SB-T1**
**RD27SB-T1**
**RD3.3SB1**
**RD3.3SB1-T1**
**RD30SB-T1**
**RD5.1SB3-T1**
**RD5.1SB3-T2**
**RD5.6SB**
**RD6.2SB**
**RD6.2SB2-T1**
**RD6.8SB2-T1**
**RD9.1SB**


ANODE
CATHODE

**1SS83**
**1SS83TA**
**ERB91-02**
**ERB91-02TP1**
**GP08D**
**GP08DPKG23**
**HZT33-02TA**
**RGP02-17EL-6433**
**RGP02-17PKG23**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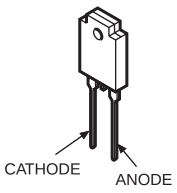
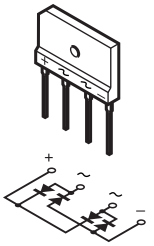
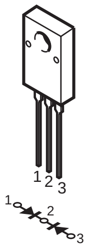
**5VUZ52**


CATHODE
ANODE

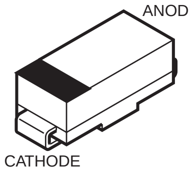
**D10SBS4**
**D10SBS4F**
**D4SBL20U**
**D6SB60L**



**D10SC9M**



**D1FS4A-TA**
**SC311-6-TE12RA**
**SC802-04**
**SC802-04-TE12RA**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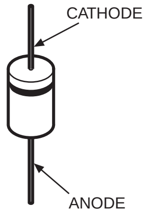
**D1NL20U-TR2**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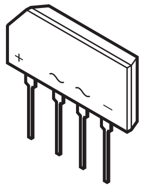
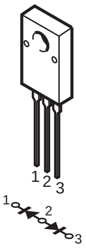
ANODE

**D4SBS6**

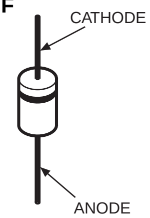


# DIODE, TRANSISTOR

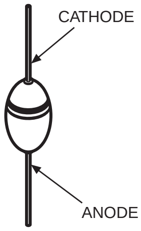
**D8LCA20R**
**D8LCA20R-F**



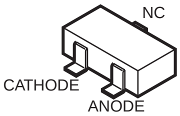
**EGP10D**
**ERA91-02**
**ERC91-02**
**ERD38-06**
**RD2.2M-T1B**
**RH-1A**
**RH-1AV1**
**S2L20UF**


CATHODE
ANODE

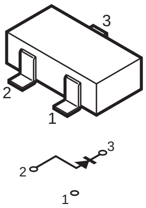
**ERC38-06**
**V11N**
**V11N-52**
**V19C-T52**
**V19CSS**
**V19E-T52**


CATHODE
ANODE

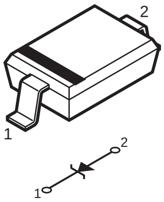
**HSM83-TL**


NC
CATHODE
ANODE

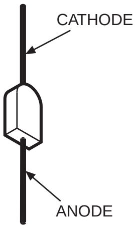
**RD12M-B2**
**RD2.7M-B2**
**RD2.7M-T1B1**
**RD22M-B**
**RD22M-T1B3**
**RD3.0M-B1**
**RD3.0M-T1B**



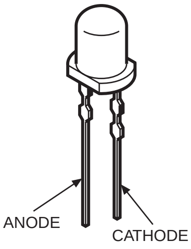
**RD6.8SB1-T1**
**RD6.8SB1-T2**



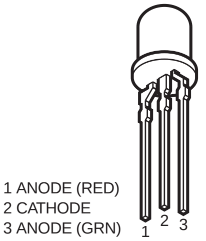
**RM11A**
**RM11C**


CATHODE
ANODE

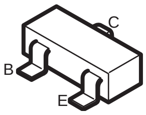
**SLR-325DCT31**
**SLR-325MCT31**
**SLR-325VCT31**


ANODE
CATHODE

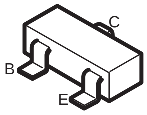
**SML-010VT-T87**


1 ANODE (RED)
2 CATHODE
3 ANODE (GRN)
1
2
3

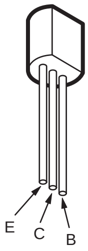
**2SA1037AK-T146-QR**
**2SA1037AK-T146-R**
**2SA1037K-T-146-Q**
**2SA1037K-T-146-QR**
**2SA1162-G**
**2SA1330-06**
**2SA1330-T1O7**
**2SA1338-5-TA**
**2SA1462-T1Y33Y34**
**2SA1462-Y33**
**2SC1623-L5L6**
**2SC1654-T1N5**
**2SC2412K-T-146-Q**
**2SC2412K-T-146-QR**
**2SC3326N-A**
**2SC3326N-TE85L-AB**
**2SC3360-N16**
**2SC3392-5-TB**
**2SC3545-T1T43T44**
**2SC3545-T43**
**DTA114EKA-T146**
**DTA114GKAT146**
**DTA143ESA-TP**
**DTA144EKA-T146**
**DTC114EK**
**DTC114EKA-T146**
**DTC114GKA**
**DTC144EKA-T146**



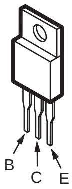
**2SA1221-K**
**2SA1221-T-KLM**
**2SB734-34**
**2SB734-T-3**
**2SC3209LK**



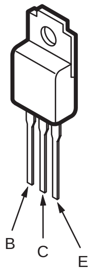
**2SA1371-E**
**2SA893A-ETZ**
**2SA893A-EV**



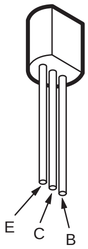
**2SB1094-LK**
**2SC4686A(LBSONY)**
**2SC4793**
**2SD1137**
**2SD1762F**
**2SD982**
**IRFI9630GS**
**IRFI9630GS-LF**



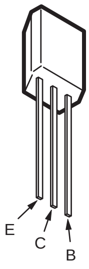
**2SB1185-E**



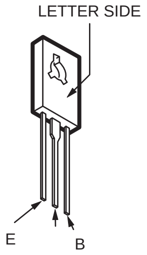
**2SC1890A-ETZ**
**2SC2362K-G**
**2SC2362KG-AA**
**2SC2551-O**
**2SC2878A-TPE2**



**2SC2668-O**
**2SC2668-OTP**



**2SC2688-L**
**2SC2688-LK**


LETTER SIDE
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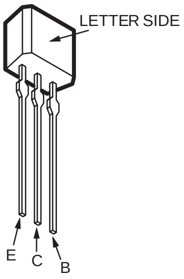
**2SC2785-HFE**
**2SC3311A-QRSTA**
**2SC3623A-LK**


LETTER SIDE
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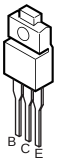
**2SC5022-02**



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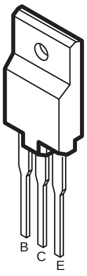

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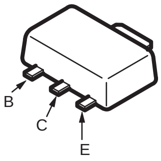
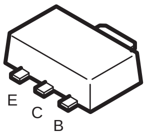
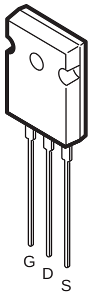


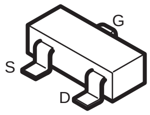
**2SD1834-T101**



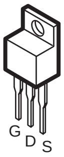
**2SK1120LBSONY**
**IRFPG50LF**



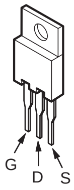
**2SK160-K5**
**2SK160-T1K4K5K6**
**2SK520K44K45-T1B**



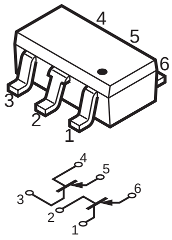
**2SK2350**



**2SK2655-01R-F165**



**IMT2**
**IMT2-T109**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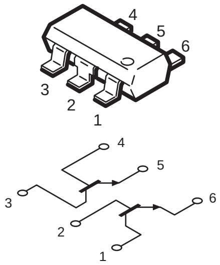
**IMX2-T109**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# Section 8
# Exploded Views

**NOTE :**

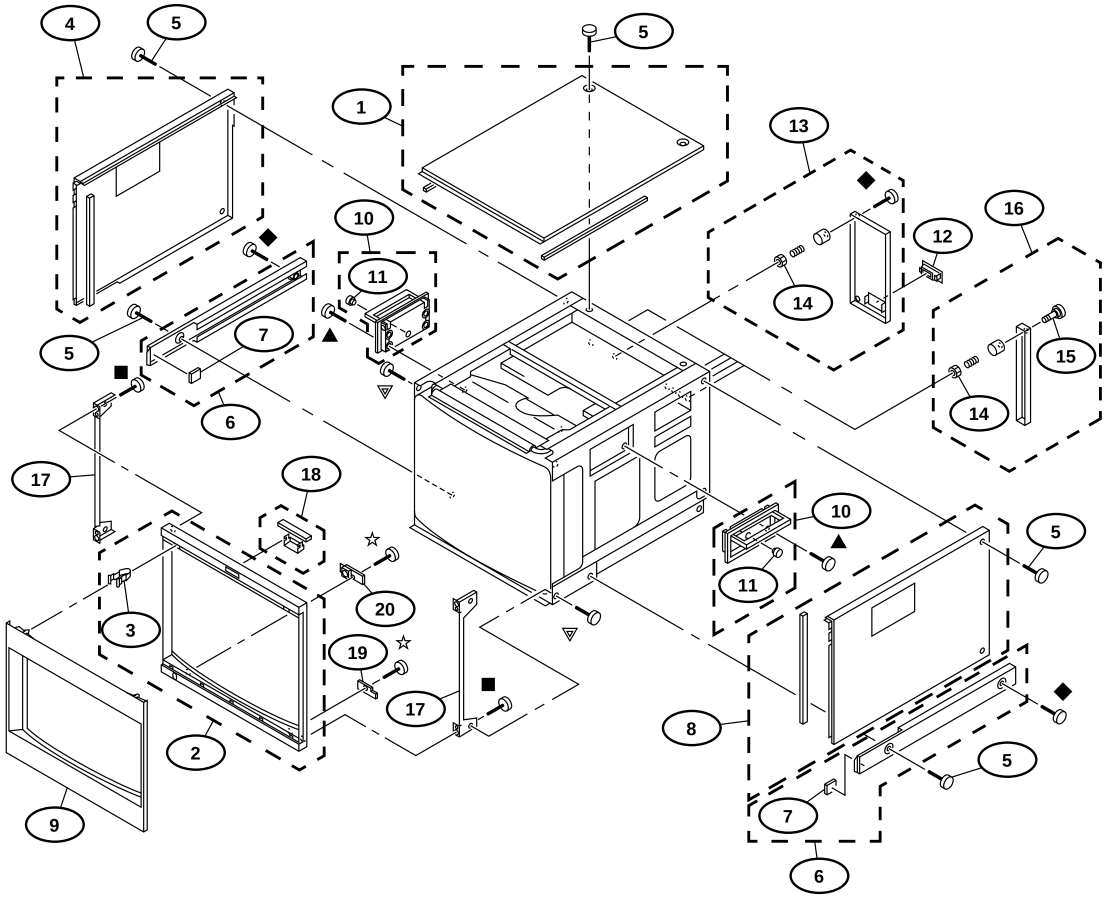
The components identified marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.

## 8-1. CABINET (20 inch)

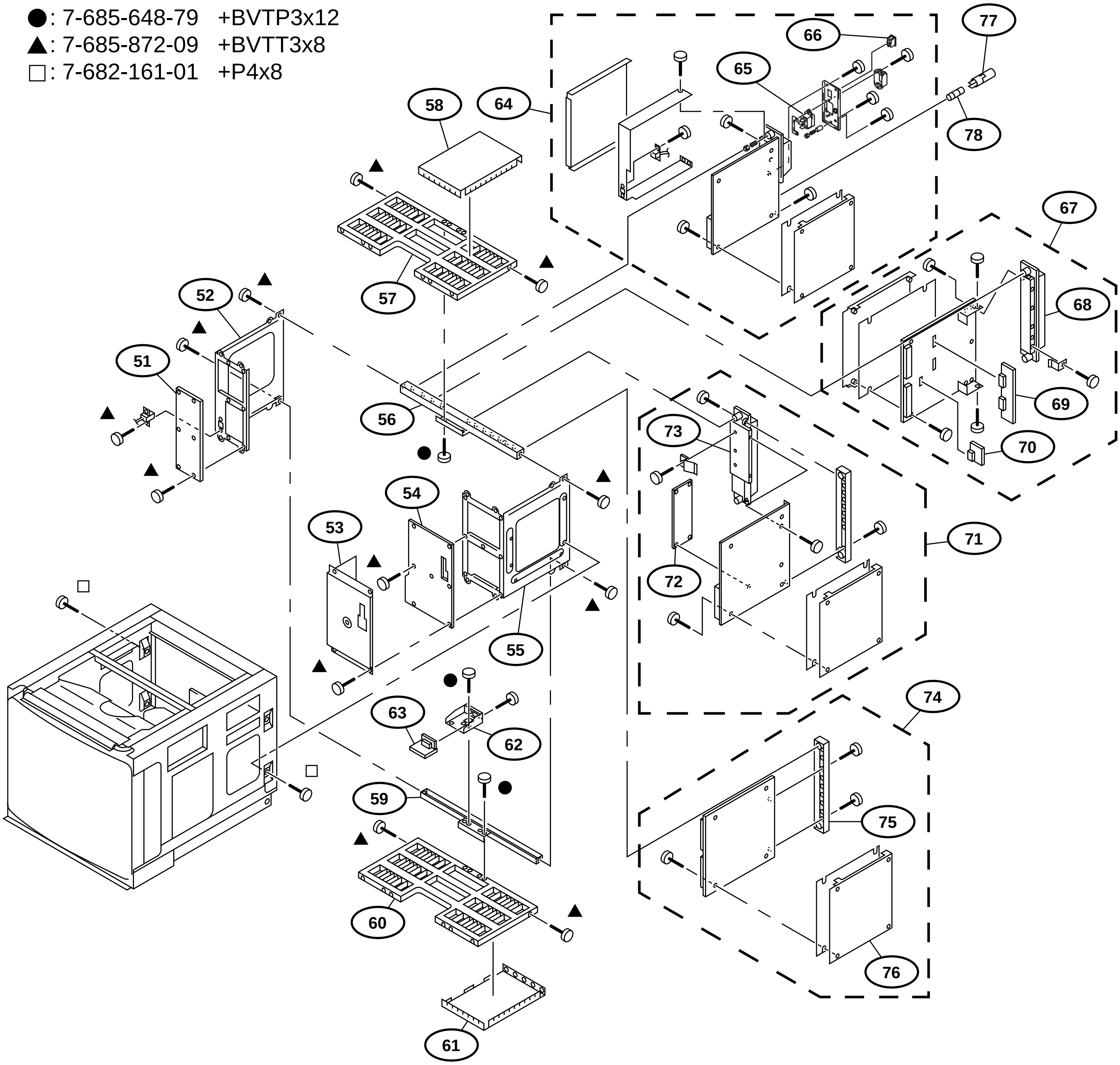
▲: 7-685-872-09 +BVTT3x8
◆: 7-682-566-04 +B4x20
■: 7-685-661-14 +BVTP4x12
☆: 7-685-647-79 +BVTP3x10
▽: 7-682-561-09 +B4x8



| Ref.No. | Part No. | Description | Remark | Ref.No. | Part No. | Description | Remark |
|---|---|---|---|---|---|---|---|
| 1 | X-4033-308-2 | CABINET ASSY, TOP | | 11 | * 3-642-047-01 | STOP, HANDLE | |
| 2 | X-4037-091-1 | BEZEL ASSY | 3 | 12 | 4-050-821-01 | ESCUTCHEON | |
| 3 | 4-051-061-02 | HOLDER, MASK | | 13 | * X-4034-953-2 | PANEL ASSY, REAR | 14 |
| 4 | X-4033-310-3 | CABINET ASSY, LEFT | | 14 | * 3-648-057-00 | NUT (ISO-4), U | |
| 5 | 4-063-969-01 | SCREW (OS), CASE, CLAW | | 15 | * 4-050-804-01 | SCREW, PANEL STOPPER | |
| 6 | * X-4033-324-3 | BLIND COVER ASSY | 7 | 16 | * X-4033-104-1 | PANEL ASSY, BLANK | 14, 15 |
| 7 | * 3-342-839-02 | CUSHION | | 17 | * 4-050-830-01 | BRACKET, BEZEL | |
| 8 | X-4033-309-3 | CABINET ASSY, RIGHT | | 18 | * A-1373-746-A | YA MOUNT | |
| 9 | X-4033-313-1 | MASK (16:9) ASSY | | 19 | * A-1373-747-A | YB MOUNT | |
| 10 | X-3642-018-3 | HANDLE ASSY | 11 | 20 | * A-1373-748-A | YC MOUNT | |

## 8-2. CARD SLOT (20 inch)

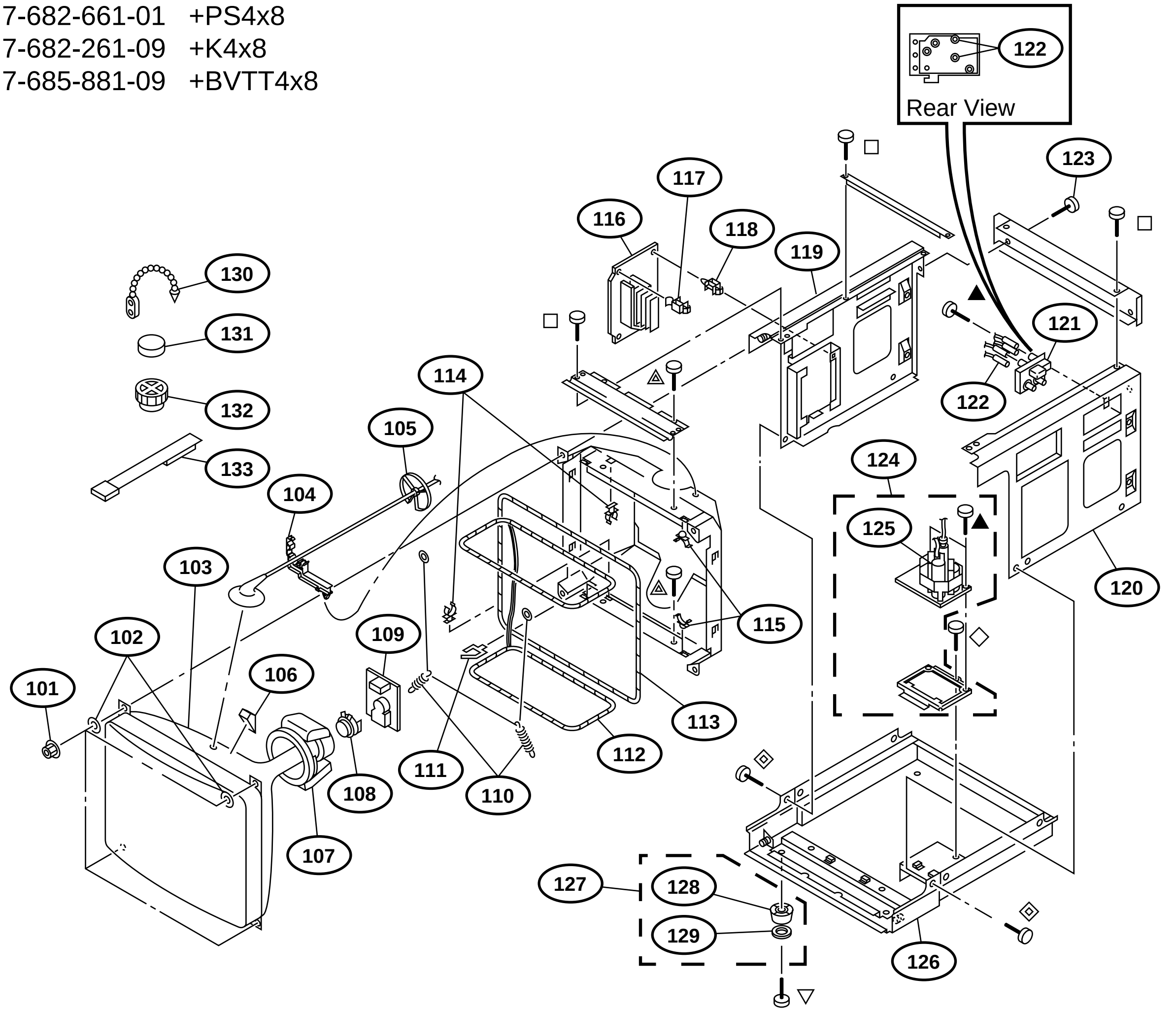
●: 7-685-648-79 +BVTP3x12
▲: 7-685-872-09 +BVTT3x8
□: 7-682-161-01 +P4x8



| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| 51 | * A-1390-943-A | TA MOUNT | |
| 52 | * 4-050-842-01 | BRACKET (L), T | |
| 53 | * X-4037-068-1 | SHIELD ASSY, T | |
| 54 | * A-1390-944-A | TB MOUNT | |
| 55 | * 4-072-209-01 | BRACKET (R), T | |
| 56 | * 4-050-847-03 | PLATE (UPPER), NUT | |
| 57 | * 4-072-207-01 | BOARD (UPPER), CARD SLOT | |
| 58 | * 4-072-205-01 | SHIELD (UPPER), SIGNAL BLOCK | |
| 59 | * 4-050-848-03 | PLATE (LOWER), NUT | |
| 60 | * 4-072-208-01 | BOARD (LOWER), CARD SLOT | |
| 61 | * 4-072-204-01 | SHIELD (LOWER), SIGNAL BLOCK | |
| 62 | * 4-050-816-01 | BRACKET, HD | |
| 63 | * A-1372-136-A | HD MOUNT | |
| 64 | ⚠* A-1316-457-A | G COMPL | 65, 66 |
| 65 | ⚠ 1-251-263-11 | INLET, AC | |
| 66 | ⚠ 1-762-300-11 | SWITCH, AC POWER SEESAW | |
| 67 | * A-1346-842-A | E COMPL | 68-70 |
| 68 | * X-4033-108-3 | HEAT SINK ASSY, DEF | |
| 69 | * A-1343-686-A | D MOUNT | |
| 70 | * A-1343-730-A | EA MOUNT | |
| 71 | * A-1136-016-A | BK COMPL | 72, 73 |
| 72 | * A-1131-524-A | BK1 MOUNT | |
| 73 | X-4034-952-1 | HEAT SINK ASSY, BK | |
| 74 | * A-1136-017-A | BC COMPL | 75, 76 |
| 75 | * X-4033-106-1 | PANEL (BC) ASSY, CONNECTOR | |
| 76 | X-4037-211-1 | SHIELD ASSY, PWB | |
| 77 | 1-533-702-11 | HOLDER, FUSE | |
| 78 | ⚠ 1-576-231-11 | FUSE (H.B.C.) 4A/250V | |

## 8-3. PICTURE TUBE (20 inch)

▲: 7-685-872-09 +BVTT3x8
□: 7-682-161-01 +P4x8
▽: 7-682-665-09 +PS4x16
◇: 7-682-661-01 +PS4x8
◈: 7-682-261-09 +K4x8
◬: 7-685-881-09 +BVTT4x8



| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| 101 | 4-306-034-00 | NUT,(B) (M5), FLANGE | |
| 102 | 4-348-567-00 | WASHER, CRT POSITION | |
| 103 | ⚠ 8-736-375-05 | PICTURE TUBE M49LCB20X (U/C) | |
| | ⚠ 8-736-374-05 | PICTURE TUBE M49LCB21X (AUS, AEP) | |
| 104 | * 4-387-284-01 | HOLDER, LEAD | |
| 105 | * 4-047-349-01 | HOLDER, HV CABLE | |
| 106 | 4-040-897-01 | SPACER, DY | |
| 107 | ⚠ 8-451-513-11 | DY Y20MTD-M | |
| 108 | ⚠ 8-453-003-11 | NA3012(M) | |
| 109 | * A-1331-954-A | C MOUNT | |
| 110 | 4-303-774-03 | SPRING | |
| 111 | * 4-316-015-00 | HOLDER, WIRE | |
| 112 | ⚠ 1-411-659-21 | COIL, DEMAGNETIC | |
| 113 | ⚠ 1-411-657-11 | COIL, LANDING CORRECTION | |
| 114 | 4-041-021-02 | HOLDER, DEGAUSE COIL | |
| 115 | 4-395-824-01 | HOLDER, DEGAUSSING COIL | |
| 116 | * A-1195-155-A | PA COMPL | |
| 117 | * 3-703-141-00 | HOLDER, PWB | |
| 118 | * 4-353-620-11 | HINGE, PC BOARD | |
| 119 | * X-4033-114-4 | CHASSIS ASSY, LEFT | |
| 120 | * X-4033-115-3 | CHASSIS ASSY, RIGHT | |
| 121 | ⚠ 1-223-417-11 | RESISTOR ASSY (HIGH-VOLTAGE) | |
| 122 | 1-900-214-33 | LEAD ASSY, FOCUS | |
| 123 | 4-063-969-01 | SCREW (OS), CASE, CLAW | |
| 124 | ⚠* A-1484-431-A | FBT BLOCK ASSY<br>(Including PC board) | 125 |
| 125 | ⚠ X-4033-492-1 | FBT ASSY, NX-4201 | |
| 126 | * X-4033-113-1 | PLATE ASSY, BOTTOM | |
| 127 | X-4033-117-1 | FOOT ASSY | 128, 129 |
| 128 | X-4836-202-9 | FOOT | |
| 129 | * 3-668-845-01 | CUSHION, LEG | |
| 130 | 4-308-870-00 | CLIP, LEAD WIRE | |
| 131 | 1-452-032-00 | MAGNET,DISC : 10 mmϕ | |
| 132 | 1-452-094-00 | MAGNET, ROTATABLE DISK : 15 mmϕ | |
| 133 | 4-051-736-21 | PIECE A(90), CONV. CORRECT | |

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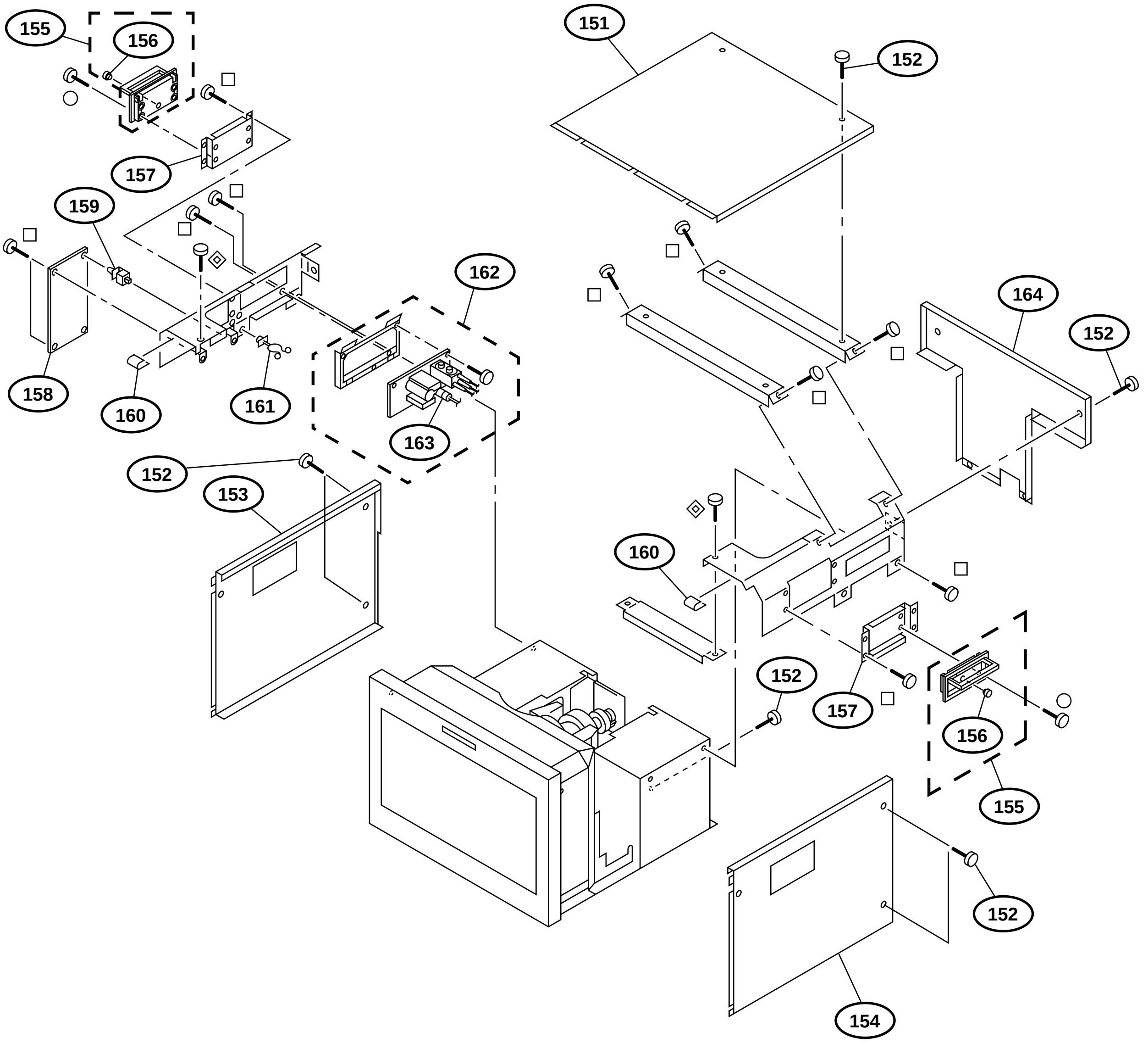
## 8-4. COVER (24 inch)

○: 7-682-648-09 +PS3x8
□: 7-682-161-01 +P4x8
◈: 7-682-261-09 +K4x8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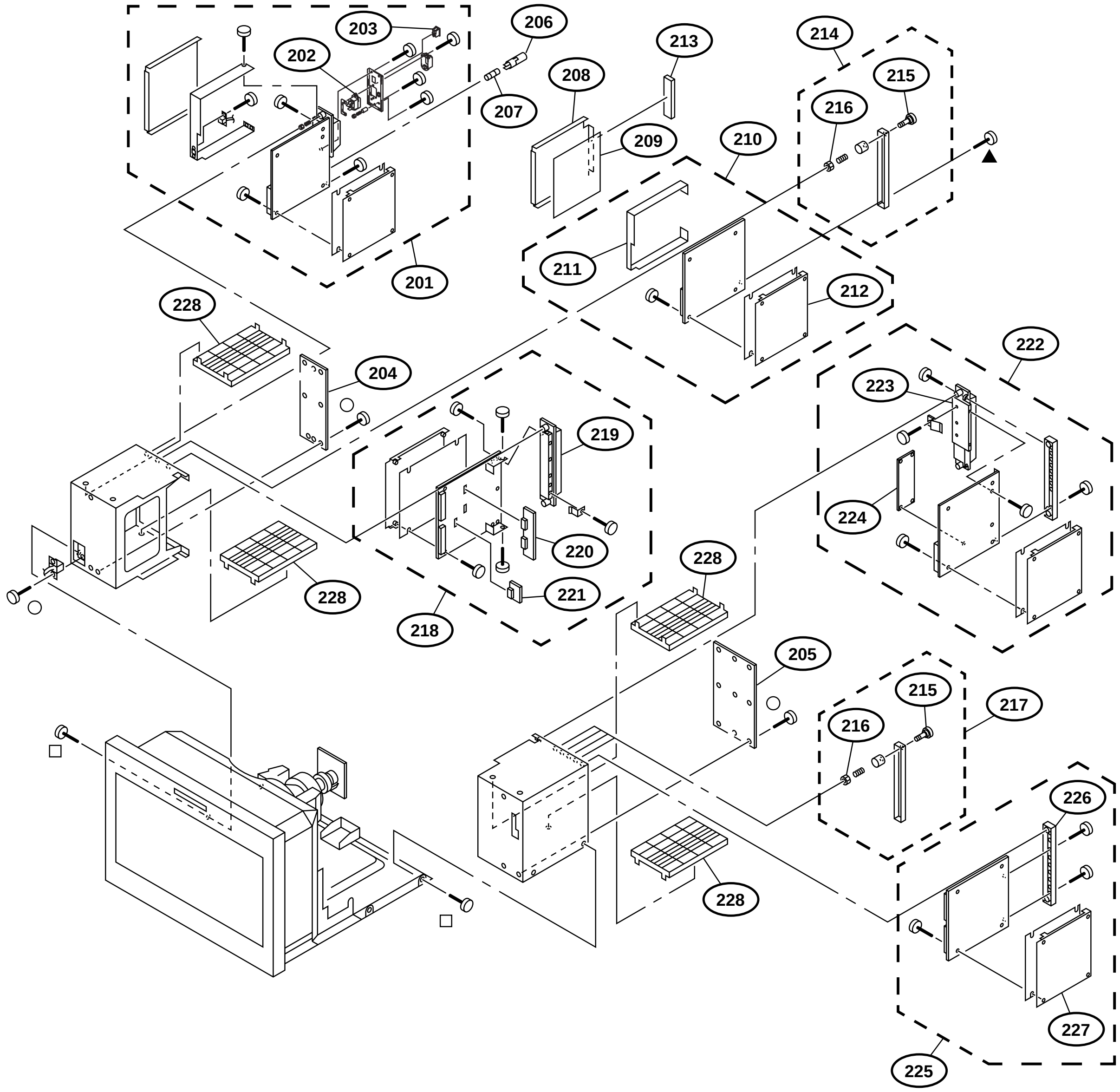
| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| 151 | * 4-072-141-02 | COVER, TOP | |
| 152 | 4-063-969-01 | SCREW (OS), CASE, CLAW | |
| 153 | * 4-072-140-01 | COVER (L), SIDE | |
| 154 | * 4-072-143-01 | COVER (R), SIDE | |
| 155 | X-3642-018-3 | HANDLE ASSY | 156 |
| 156 | * 3-642-047-01 | STOP, HANDLE | |
| 157 | * 4-072-136-01 | BRACKET, HANDLE | |
| 158 | * A-1195-157-A | PA COMPL | |
| 159 | * 4-353-620-11 | HINGE, PC BOARD | |
| 160 | * 4-072-642-01 | COVER (A), EDGE | |
| 161 | 3-703-319-01 | PURSE LOCK (DIA.15) | |
| 162 | ⚠ * A-1484-454-A | FBT BLOCK ASSY<br>(Including PC board) | 163 |
| 163 | ⚠ X-4560-170-1 | FBT ASSY, NX-4202 | |
| 164 | * X-4037-046-1 | COVER ASSY, REAR | |

## 8-5. CARD SLOT (24 inch)

▲: 7-685-872-09 +BVTT3x8
○: 7-682-648-09 +PS3x8
□: 7-682-161-01 +P4x8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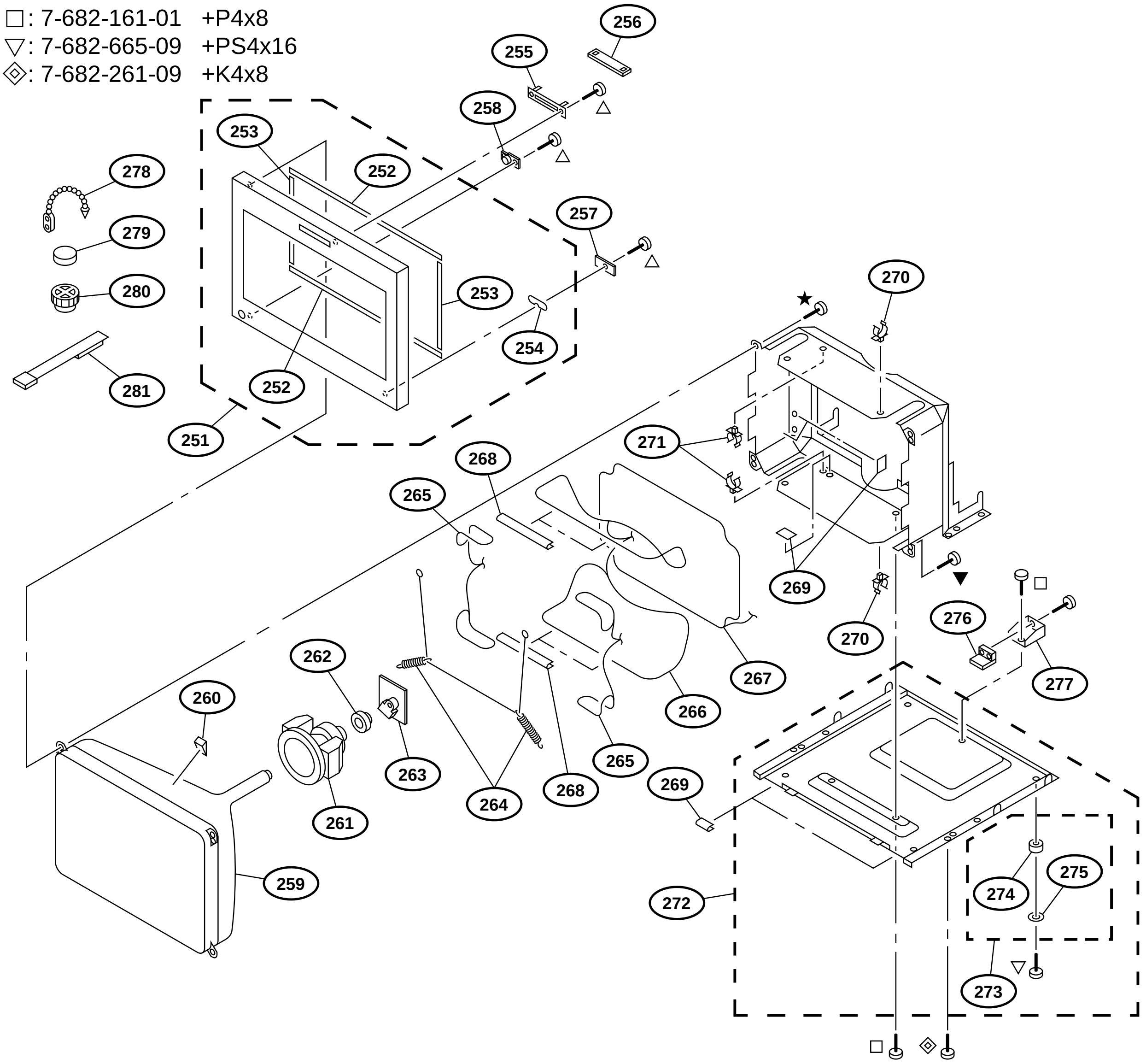
| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| 201 | ⚠ * A-1316-457-A | G COMPL | 202, 203 |
| 202 | ⚠ 1-251-263-11 | INLET, AC | |
| 203 | ⚠ 1-762-300-11 | SWITCH, AC POWER SEESAW | |
| 204 | * A-1390-943-A | TA MOUNT | |
| 205 | * A-1390-944-A | TB MOUNT | |
| 206 | 1-533-702-11 | HOLDER, FUSE | |
| 207 | ⚠ 1-576-231-11 | FUSE (H.B.C.) 4A/250V | |
| 208 | * 4-072-886-01 | COVER, FRAME | |
| 209 | * 4-072-887-01 | INSULATED PLATE | |
| 210 | * A-1136-026-A | BUF COMPL | 211, 212 |
| 211 | * X-4037-157-1 | FRAME ASSY, PWB | |
| 212 | * X-4037-212-1 | SHIELD ASSY, PWB | |
| 213 | * 4-053-287-01 | GASKET | |
| 214 | * X-4033-104-1 | PANEL ASSY, BLANK | 215, 216 |
| 215 | * 4-050-804-01 | SCREW, PANEL STOPPER | |
| 216 | * 3-648-057-00 | NUT (ISO-4), U | |
| 217 | * X-4033-104-1 | PANEL ASSY, BLANK | 215, 216 |
| 218 | * A-1346-849-A | E COMPL | 219-221 |
| 219 | * X-4033-108-3 | HEAT SINK ASSY, DEF | |
| 220 | * A-1343-686-A | D MOUNT | |
| 221 | * A-1343-730-A | EA MOUNT | |
| 222 | * A-1136-025-A | BK COMPL | 223, 224 |
| 223 | X-4034-952-1 | HEAT SINK ASSY, BK | |
| 224 | * A-1131-524-A | BK1 MOUNT | |
| 225 | * A-1136-017-A | BC COMPL | 226, 227 |
| 226 | * X-4033-106-1 | PANEL (BC) ASSY, CONNECTOR | |
| 227 | * X-4037-211-1 | SHIELD ASSY, PWB | |
| 228 | * 4-072-145-01 | RAIL, PWB | |

## 8-6. PICTURE TUBE (24 inch)

★: 7-683-355-07 HEXAGON BOLT 6x16
▼: 7-685-659-91 +BVTP4x8
△: 7-685-871-01 +BVTT3x6
□: 7-682-161-01 +P4x8
▽: 7-682-665-09 +PS4x16
◈: 7-682-261-09 +K4x8



| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| 251 | X-4037-041-1 | BEZEL ASSY | 252-254 |
| 252 | * 4-072-119-01 | SPACER, BEZEL | |
| 253 | * 4-072-119-11 | SPACER, BEZEL | |
| 254 | * 4-072-122-01 | YB PLATE | |
| 255 | * 4-072-138-01 | PLATE, TALLY | |
| 256 | * A-1373-753-A | YA MOUNT | |
| 257 | * A-1373-754-A | YB MOUNT | |
| 258 | * A-1373-755-A | YC MOUNT | |
| 259 | ⚠ 8-733-006-05 | PICTURE TUBE M57LRX20X (U/C) | |
| | ⚠ 8-733-005-05 | PICTURE TUBE M57LRX21X (AUS, AEP) | |
| 260 | 4-040-897-01 | SPACER, DY | |
| 261 | ⚠ 8-451-510-11 | DY Y24TXD-M | |
| 262 | ⚠ 1-452-912-31 | NECK AEEENBLY (NA2914) | |
| 263 | * A-1331-958-A | C MOUNT | |
| 264 | 3-610-266-01 | SPRING | |
| 265 | ⚠ 1-416-140-12 | COIL, LANDING CORRECTION | |

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| 266 | ⚠ 1-419-316-11 | COIL, DEGAUSSING | |
| 267 | ⚠ 1-415-968-11 | COIL, LANDING CORRECTION (NS) | |
| 268 | * 4-072-642-12 | COVER (A), EDGE | |
| 269 | * 4-072-642-01 | COVER (A), EDGE | |
| 270 | 4-041-021-02 | HOLDER, DEGAUSE COIL | |
| 271 | 4-395-824-01 | HOLDER, DEGAUSSING COIL | |
| 272 | * X-4037-042-1 | CABINET ASSY, BOTTOM | 273-275 |
| 273 | X-4033-117-1 | FOOT ASSY | 274, 275 |
| 274 | 4-306-405-01 | FOOT | |
| 275 | * 3-668-845-01 | CUSHION, LEG | |
| 276 | * A-1372-136-A | HD MOUNT | |
| 277 | * 4-050-816-11 | BRACKET, HD | |
| 278 | 4-308-870-00 | CLIP, LEAD WIRE | |
| 279 | 1-452-032-00 | MAGNET, DISK : 10 mmϕ | |
| 280 | 1-452-094-00 | MAGNET ROTATABLE DISK : 15 mmϕ | |
| 281 | 4-051-736-21 | PIECE A(90), CONV. CORRECT | |

# Section 9
# Electrical Parts List

**NOTE :**

The components identified marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- The components marked ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- Items marked “ ∗ ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.

RESISTORS
- All resistors are in ohms.
- F: nonflammable
- METAL: Metal-film resistor
- METAL OXIDE: Metal oxide-film resistor

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | ∗ A-1136-017-A | BC COMPL<br>*********** | | | |
| | ∗ X-4033-106-1 | PANEL (BC) ASSY, CONNECTOR | | | |
| | ∗ X-4037-211-1 | SHIELD ASSY, PWB | | | |
| | 1-526-652-21 | SOCKET, IC (DP) 8P | | | |
| | 1-540-222-11 | SOCKET, IC (PCC PACKAGE) 84P | | | |
| | ∗ 3-648-057-00 | NUT (ISO-4), U | | | |
| | ∗ 4-050-794-03 | INSULATOR | | | |
| | ∗ 4-050-804-01 | SCREW, PANEL STOPPER | | | |
| | 7-432-114-11 | SCREW LOCK | | | |
| | 7-682-647-09 | SCREW +PS 3X6 | | | |
| | 7-685-872-09 | SCREW +BVTT 3X8 (S) | | | |
| | <HOLDER, BATTERY> | | | | |
| BAT1 | 1-550-104-11 | HOLDER, BATTERY | | | |
| | <CAPACITOR> | | | | |
| C1 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C2 | 1-163-227-11 | CERAMIC CHIP | 10PF | 0.5PF | 50V |
| C4 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C5 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C7 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C12 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C13 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C14 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C31 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C32 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C33 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C34 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C35 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C36 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C37 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C39 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C41 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C42 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C43 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C44 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C45 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C46 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C47 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C51 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C101 | 1-109-982-11 | CERAMIC CHIP | 1µF | 10% | 10V |
| C102 | 1-164-346-11 | CERAMIC CHIP | 1µF | | 16V |
| C103 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C104 | 1-163-275-11 | CERAMIC CHIP | 0.001µF | 5% | 50V |
| C112 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C154 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C155 | 1-164-182-11 | CERAMIC CHIP | 0.0033µF | 10% | 50V |
| C156 | 1-164-344-11 | CERAMIC CHIP | 0.068µF | 10% | 25V |
| C157 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C158 | 1-128-526-11 | ELECT | 100µF | 20% | 10V |
| C159 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C232 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C246 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C247 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C250 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C251 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C252 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C253 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C281 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C282 | 1-104-652-11 | ELECT | 470µF | 20% | 10V |
| C283 | 1-104-652-11 | ELECT | 470µF | 20% | 10V |
| C300 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C301 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C302 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C303 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C304 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C305 | 1-163-145-00 | CERAMIC CHIP | 0.0015µF | 5% | 50V |
| C306 | 1-163-145-00 | CERAMIC CHIP | 0.0015µF | 5% | 50V |
| C307 | 1-125-838-91 | CERAMIC CHIP | 2.2µF | 10% | 6.3V |
| C313 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C314 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C351 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C352 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C374 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C375 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C376 | 1-163-231-11 | CERAMIC CHIP | 15PF | 5% | 50V |
| C377 | 1-163-231-11 | CERAMIC CHIP | 15PF | 5% | 50V |
| C378 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C379 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C380 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C381 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C382 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C405 | 1-107-909-11 | ELECT | 47µF | 20% | 16V |
| C406 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C407 | 1-164-690-91 | CERAMIC CHIP | 0.0022µF | 5% | 50V |
| C551 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C552 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C553 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C554 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C555 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C556 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C557 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C558 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C800 | 1-104-652-11 | ELECT | 470µF | 20% | 10V |
| C801 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C802 | 1-163-275-11 | CERAMIC CHIP | 0.001µF | 5% | 50V |
| C803 | 1-104-563-11 | FILM CHIP | 0.1µF | 5% | 16V |
| C804 | 1-109-982-11 | CERAMIC CHIP | 1µF | 10% | 10V |
| C805 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C806 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C807 | 1-104-652-11 | ELECT | 470µF | 20% | 10V |
| C808 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C809 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C812 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C813 | 1-164-346-11 | CERAMIC CHIP | 1µF | | 16V |
| C815 | 1-163-231-11 | CERAMIC CHIP | 15PF | 5% | 50V |
| C816 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C817 | 1-163-275-11 | CERAMIC CHIP | 0.001µF | 5% | 50V |
| C818 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C819 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C820 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C821 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C822 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C823 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C824 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C825 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C826 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C829 | 1-104-652-11 | ELECT | 470µF | 20% | 10V |
| C831 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C832 | 1-163-243-11 | CERAAMI CHIP | 47PF | 5% | 50V |
| C833 | 1-163-243-11 | CERAAMI CHIP | 47PF | 5% | 50V |
| C840 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C871 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C900 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C901 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C902 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C903 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C904 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C905 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C906 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C907 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C908 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C909 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C910 | 1-126-235-11 | ELECT | 100µF | 20% | 10V |
| C911 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C912 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C913 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C914 | 1-126-235-11 | ELECT | 100µF | 20% | 10V |
| C915 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C916 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C917 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C918 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C919 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C920 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C921 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C922 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C923 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C924 | 1-104-652-11 | ELECT | 470µF | 20% | 10V |
| C925 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C950 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C951 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C952 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C953 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C954 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C955 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C956 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C960 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C961 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C962 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C963 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C964 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C965 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C966 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C967 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C968 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C969 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C970 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| | <CONNECTOR> | | | | |
| CN1 | 1-774-523-11 | PIN, CONNECTOR (PC BOARD) 64P | | | |
| CN2 | 1-774-523-11 | PIN, CONNECTOR (PC BOARD) 64P | | | |
| CN3 | 1-565-269-11 | SOCKET, CONNECTOR (D-DUB,L) 9P | | | |
| CN4 | 1-565-269-11 | SOCKET, CONNECTOR (D-DUB,L) 9P | | | |
| CN5 | 1-565-269-11 | SOCKET, CONNECTOR (D-DUB,L) 9P | | | |
| CN6 | 1-565-269-11 | SOCKET, CONNECTOR (D-DUB,L) 9P | | | |
| CN7 | ∗ 1-784-403-21 | CONNECTOR, BOARD TO BOARD 40P | | | |
| | <DIODE> | | | | |
| D1 | 8-719-051-89 | DIODE SML-010VT-T87 | | | |
| D2 | 8-719-051-89 | DIODE SML-010VT-T87 | | | |
| D3 | 8-719-051-89 | DIODE SML-010VT-T87 | | | |
| D4 | 8-719-051-89 | DIODE SML-010VT-T87 | | | |
| D29 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D30 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D31 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D32 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D33 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D34 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D35 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D36 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D37 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D38 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D39 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D40 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D41 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D111 | 8-719-159-13 | DIODE RD5.1SB3-T2 | | | |
| D201 | 8-719-037-22 | DIODE RD12SB-T1 | | | |
| D202 | 8-719-037-22 | DIODE RD12SB-T1 | | | |
| D203 | 8-719-037-22 | DIODE RD12SB-T1 | | | |
| D204 | 8-719-037-22 | DIODE RD12SB-T1 | | | |
| D205 | 8-719-037-22 | DIODE RD12SB-T1 | | | |
| D206 | 8-719-037-22 | DIODE RD12SB-T1 | | | |
| D207 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D208 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D209 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D210 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D211 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D212 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D213 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D214 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D215 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D216 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D217 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| D218 | 8-719-037-00 | DIODE RD6.2SB2-T1 | |
| D219 | 8-719-037-00 | DIODE RD6.2SB2-T1 | |
| D220 | 8-719-158-53 | DIODE RD13SB2 | |
| D221 | 8-719-158-53 | DIODE RD13SB2 | |
| D222 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D223 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D224 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D225 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D226 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D550 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D551 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D552 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D553 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D554 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D555 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D556 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D557 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D558 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D559 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D560 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D561 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D800 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D801 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D830 | 8-719-037-00 | DIODE RD6.2SB2-T1 | |
| D831 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D840 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D841 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D851 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D852 | 8-719-073-01 | DIODE MA111-(K8).S0 | |

<FILTER>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| FL1 | 1-239-183-11 | FILTER, EMI | |
| FL2 | 1-239-183-11 | FILTER, EMI | |
| FL3 | 1-239-183-11 | FILTER, EMI | |
| FL5 | 1-239-183-11 | FILTER, EMI | |
| FL105 | 1-239-183-11 | FILTER, EMI | |
| FL106 | 1-239-183-11 | FILTER, EMI | |
| FL107 | 1-239-183-11 | FILTER, EMI | |
| FL109 | 1-239-493-11 | FILTER, EMI | |
| FL110 | 1-239-183-11 | FILTER, EMI | |
| FL111 | 1-239-183-11 | FILTER, EMI | |
| FL112 | 1-239-183-11 | FILTER, EMI | |
| FL113 | 1-239-183-11 | FILTER, EMI | |
| FL114 | 1-239-183-11 | FILTER, EMI | |
| FL115 | 1-239-183-11 | FILTER, EMI | |
| FL116 | 1-239-183-11 | FILTER, EMI | |
| FL117 | 1-239-183-11 | FILTER, EMI | |
| FL120 | 1-236-071-11 | ENCAPSULATED COMPONENT | |
| FL121 | 1-236-071-11 | ENCAPSULATED COMPONENT | |
| FL122 | 1-236-071-11 | ENCAPSULATED COMPONENT | |
| FL125 | 1-236-071-11 | ENCAPSULATED COMPONENT | |
| FL200 | 1-236-071-11 | ENCAPSULATED COMPONENT | |
| FL201 | 1-236-071-11 | ENCAPSULATED COMPONENT | |
| FL202 | 1-239-183-11 | FILTER, EMI | |
| FL203 | 1-239-183-11 | FILTER, EMI | |
| FL204 | 1-239-183-11 | FILTER, EMI | |
| FL205 | 1-236-071-11 | ENCAPSULATED COMPONENT | |
| FL210 | 1-239-183-11 | FILTER, EMI | |
| FL211 | 1-239-183-11 | FILTER, EMI | |
| FL212 | 1-239-183-11 | FILTER, EMI | |
| FL213 | 1-236-071-11 | ENCAPSULATED COMPONENT | |
| FL214 | 1-236-071-11 | ENCAPSULATED COMPONENT | |
| FL220 | 1-239-183-11 | FILTER, EMI | |
| FL221 | 1-239-183-11 | FILTER, EMI | |
| FL222 | 1-239-183-11 | FILTER, EMI | |
| FL223 | 1-239-183-11 | FILTER, EMI | |
| FL532 | 1-239-183-11 | FILTER, EMI | |
| FL533 | 1-239-183-11 | FILTER, EMI | |
| FL537 | 1-239-183-11 | FILTER, EMI | |
| FL538 | 1-239-183-11 | FILTER, EMI | |
| FL551 | 1-239-183-11 | FILTER, EMI | |
| FL552 | 1-239-183-11 | FILTER, EMI | |
| FL553 | 1-239-183-11 | FILTER, EMI | |
| FL554 | 1-239-183-11 | FILTER, EMI | |
| FL555 | 1-239-183-11 | FILTER, EMI | |
| FL556 | 1-239-183-11 | FILTER, EMI | |
| FL557 | 1-239-183-11 | FILTER, EMI | |
| FL558 | 1-239-183-11 | FILTER, EMI | |
| FL562 | 1-239-183-11 | FILTER, EMI | |
| FL563 | 1-239-183-11 | FILTER, EMI | |
| FL564 | 1-239-183-11 | FILTER, EMI | |
| FL566 | 1-239-183-11 | FILTER, EMI | |
| FL567 | 1-239-183-11 | FILTER, EMI | |
| FL568 | 1-239-183-11 | FILTER, EMI | |

<IC>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| IC2 | 8-759-346-07 | IC MM1026BFB | |
| IC3 | 8-759-553-93 | IC MBM29F400BC-90PF | |
| IC4 | 8-759-497-29 | IC LC35256DM-70-TLM | |
| IC5 | 8-752-381-84 | IC CXD1095BQ | |
| IC6 | 8-752-381-84 | IC CXD1095BQ | |
| IC7 | 8-759-156-54 | IC X25040SI | |
| IC8 | 8-759-082-57 | IC TC7W04FU | |
| IC9 | 8-759-082-59 | IC TC7W32FU | |
| IC10 | 8-759-524-07 | IC TC74VHC138FT(EL) | |
| IC11 | 8-759-082-55 | IC TC7W00FU | |
| IC12 | 8-759-524-04 | IC TC74VHC125FT(EL) | |
| IC13 | 8-759-524-07 | IC TC74VHC138FT(EL) | |
| IC14 | 8-759-575-91 | IC MAX490ECSA | |
| IC15 | 8-759-081-44 | IC TC74VHC04F | |
| IC16 | 8-759-082-58 | IC TC7W08FU | |
| IC17 | 8-759-082-59 | IC TC7W32FU | |
| IC18 | 8-759-082-55 | IC TC7W00FU | |
| IC19 | 8-759-083-94 | IC TC7W74FU | |
| IC20 | 1-803-219-11 | IC TC3W03FU | |
| IC21 | 8-759-523-81 | IC TC74VHC08FT(EL) | |
| IC22 | 8-759-346-05 | IC µPD71051GU-10-E2 | |
| IC23 | 8-759-346-05 | IC µPD71051GU-10-E2 | |
| IC24 | 8-759-346-05 | IC µPD71051GU-10-E2 | |
| IC25 | 8-759-397-01 | IC MAX487CSA-TE2 | |
| IC26 | 8-759-397-01 | IC MAX487CSA-TE2 | |
| IC27 | 8-759-252-59 | IC MAX202CSE | |
| IC28 | 8-759-252-59 | IC MAX202CSE | |
| IC29 | 1-803-219-11 | IC TC3W03FU | |
| IC30 | 8-759-497-29 | IC LC35256DM-70-TLM | |
| IC31 | 8-759-058-54 | IC TC7S00FU(TE85R) | |
| IC32 | 8-759-925-75 | IC SN74HC05ANS | |
| IC33 | 8-759-925-75 | IC SN74HC05ANS | |
| IC34 | 8-759-239-98 | IC TC74HC30AF | |
| IC35 | 8-759-042-02 | IC S-80743AL-A7-S | |
| IC36 | 8-759-252-59 | IC MAX202CSE | |
| IC37 | 8-759-182-91 | IC PQ12TZ5U | |
| IC51 | 8-759-700-65 | IC NJM79L05A | |
| IC52 | 8-759-460-74 | IC BA05FP-E2 | |
| IC100 | 8-759-186-30 | IC TC74VHC14F | |
| IC101 | 8-759-186-30 | IC TC74VHC14F | |
| IC102 | 8-759-011-65 | IC MC74HC4053F | |
| IC103 | 8-759-081-42 | IC TC74VHC00F | |
| IC104 | 8-759-524-04 | IC TC74VHC125FT(EL) | |
| IC105 | 8-759-082-59 | IC TC7W32FU | |
| IC106 | 8-759-011-65 | IC MC74HC4053F | |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| IC107 | 8-759-186-43 | IC TC74VHC123AF | | | |
| IC108 | 8-759-195-02 | IC TC7S86F-TE85L | | | |
| IC109 | 8-759-523-97 | IC TC74VHC123AFT(EL) | | | |
| IC124 | 8-759-328-12 | IC Z8622812PSC | | | |
| IC550 | 8-759-186-30 | IC TC74VHC14F | | | |
| IC551 | 8-759-186-30 | IC TC74VHC14F | | | |
| IC800 | 8-759-295-09 | IC TLC2932IPW | | | |
| IC801 | 8-759-081-42 | IC TC74VHC00F | | | |
| IC802 | 8-759-524-04 | IC TC74VHC125FT(EL) | | | |
| IC804 | 8-759-497-29 | IC LC35256DM-70-TLM | | | |
| IC805 | 8-759-522-14 | IC MB90096PF-G-127-BND-ER | | | |
| IC806 | 8-752-334-64 | IC CXD1171M | | | |
| IC807 | 8-759-186-38 | IC TC74VHC32F | | | |
| IC808 | 8-759-524-04 | IC TC74VHC125FT(EL) | | | |
| IC809 | 8-759-081-46 | IC TC74VHCU04F | | | |
| IC810 | 8-759-011-65 | IC MC74HC4053F | | | |
| IC811 | 8-759-491-33 | IC TC74VHCT08AF(EL) | | | |
| IC812 | 8-759-491-33 | IC TC74VHCT08AF(EL) | | | |
| IC813 | 8-759-491-33 | IC TC74VHCT08AF(EL) | | | |
| IC815 | 8-759-186-30 | IC TC74VHC14F | | | |
| IC816 | 8-759-081-42 | IC TC74VHC00F | | | |
| IC817 | 8-759-082-57 | IC TC7W04FU | | | |
| IC818 | 8-759-082-57 | IC TC7W04FU | | | |
| IC819 | 8-759-082-58 | IC TC7W08FU | | | |
| IC820 | 8-759-973-72 | IC SN74LS07NS | | | |
| IC821 | 8-759-147-47 | IC µPC1093T | | | |
| IC822 | 8-759-271-88 | IC TC7SHU04FU | | | |
| | <CHIP CONDUCTOR> | | | | |
| JR92 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| JR93 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| JR94 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| | <COIL> | | | | |
| L201 | 1-412-537-31 | INDUCTOR | 100µH | | |
| L801 | 1-412-537-31 | INDUCTOR | 100µH | | |
| | <TRANSISTOR> | | | | |
| Q1 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| Q4 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| Q8 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| Q9 | 8-729-921-12 | TRANSISTOR 2SD1834 | | | |
| Q111 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q112 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q404 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q405 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q406 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q830 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q831 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q832 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | | | |
| Q834 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | | | |
| Q835 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| Q836 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q840 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q841 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q842 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | | | |
| Q851 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q870 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q871 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q872 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | <RESISTOR> | | | | |
| R1 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R2 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R3 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R4 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R5 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R6 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R7 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R8 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R9 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R10 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W |
| R11 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R12 | 1-216-037-00 | RES,CHIP | 330 | 5% | 1/10W |
| R13 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R14 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R15 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R16 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R17 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R18 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R19 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R20 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R21 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R22 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R23 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R24 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R25 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R26 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R27 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R28 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R29 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R30 | 1-216-037-00 | RES,CHIP | 330 | 5% | 1/10W |
| R31 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W |
| R32 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R33 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R34 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R35 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R36 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R37 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R38 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R41 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R42 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R43 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R44 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R45 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R46 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R47 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R48 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R49 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R50 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R51 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R52 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R53 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R54 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R55 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R56 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R57 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R58 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R59 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R60 | 1-216-045-00 | RES,CHIP | 680 | 5% | 1/10W |
| R61 | 1-216-047-91 | RES,CHIP | 820 | 5% | 1/10W |
| R62 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R63 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R64 | 1-216-069-00 | RES,CHIP | 6.8K | 5% | 1/10W |
| R65 | 1-216-295-91 | SHORT | 0 | | |
| R66 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R67 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R68 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R69 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R70 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R71 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R72 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R73 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R74 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R75 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R76 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R77 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R78 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R79 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R80 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R81 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W |
| R82 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R83 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W |
| R84 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R85 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R86 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R87 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R88 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R89 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R90 | 1-247-807-31 | CARBON | 100k | 5% | 1/4W |
| R91 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R100 | 1-216-013-00 | RES,CHIP | 33 | 5% | 1/10W |
| R101 | 1-216-013-00 | RES,CHIP | 33 | 5% | 1/10W |
| R102 | 1-216-013-00 | RES,CHIP | 33 | 5% | 1/10W |
| R103 | 1-216-013-00 | RES,CHIP | 33 | 5% | 1/10W |
| R104 | 1-216-013-00 | RES,CHIP | 33 | 5% | 1/10W |
| R105 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R106 | 1-216-013-00 | RES,CHIP | 33 | 5% | 1/10W |
| R107 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R108 | 1-216-013-00 | RES,CHIP | 33 | 5% | 1/10W |
| R109 | 1-216-013-00 | RES,CHIP | 33 | 5% | 1/10W |
| R110 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R111 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R112 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R113 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R114 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R115 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R116 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R117 | 1-216-061-00 | RES,CHIP | 3.3K | 5% | 1/10W |
| R118 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R119 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R120 | 1-216-669-11 | METAL CHIP | 5.6K | 0.50% | 1/10W |
| R121 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R122 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R123 | 1-216-059-00 | RES,CHIP | 2.7K | 5% | 1/10W |
| R124 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R125 | 1-216-059-00 | RES,CHIP | 2.7K | 5% | 1/10W |
| R126 | 1-216-013-00 | RES,CHIP | 33 | 5% | 1/10W |
| R127 | 1-216-039-00 | RES,CHIP | 390 | 5% | 1/10W |
| R128 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R129 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R130 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R131 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W |
| R132 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R133 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R134 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R135 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R137 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R138 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R139 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R140 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R141 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R142 | 1-216-607-11 | METAL CHIP | 15K | 0.50% | 1/10W |
| R144 | 1-218-764-11 | METAL CHIP | 330K | 0.50% | 1/10W |
| R145 | 1-216-699-11 | METAL CHIP | 100K | 0.50% | 1/10W |
| R157 | 1-216-069-00 | RES,CHIP | 6.8K | 5% | 1/10W |
| R170 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R171 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R172 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R179 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R180 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R181 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R182 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R183 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R210 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R211 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R212 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R220 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R221 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R222 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R223 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R551 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R552 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R553 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R554 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R555 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R556 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R557 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R558 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R562 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R563 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R564 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R566 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R567 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R568 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R800 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R801 | 1-216-295-91 | SHORT | 0 | | |
| R802 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R803 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W |
| R804 | 1-216-131-11 | RES,CHIP | 2.7M | 5% | 1/10W |
| R805 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R806 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R807 | 1-216-638-11 | METAL CHIP | 300 | 0.50% | 1/10W |
| R808 | 1-216-625-11 | METAL CHIP | 82 | 0.50% | 1/10W |
| R809 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R810 | 1-216-113-00 | RES,CHIP | 470K | 5% | 1/10W |
| R811 | 1-216-295-91 | SHORT | 0 | | |
| R812 | 1-216-295-91 | SHORT | 0 | | |
| R814 | 1-216-295-91 | SHORT | 0 | | |
| R816 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R817 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R818 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R819 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R820 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W |
| R821 | 1-216-634-11 | METAL CHIP | 200 | 0.50% | 1/10W |
| R822 | 1-216-663-11 | METAL CHIP | 3.3K | 0.50% | 1/10W |
| R823 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R824 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R827 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R828 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R830 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R831 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R832 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R833 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R834 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R835 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R836 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R837 | 1-215-377-00 | METAL | 15 | 1% | 1/4W |
| R840 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R841 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R842 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R843 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R844 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R845 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R852 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R853 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R854 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R855 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R856 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R857 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R860 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R861 | 1-216-295-91 | SHORT | 0 | | |
| R862 | 1-216-669-11 | METAL CHIP | 5.6K | 0.50% | 1/10W |
| R863 | 1-216-603-11 | METAL CHIP | 10 | 0.50% | 1/10W |
| R864 | 1-216-603-11 | METAL CHIP | 10 | 0.50% | 1/10W |
| R870 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R871 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R872 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R873 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R874 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R875 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R876 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R877 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R878 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R879 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R880 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R881 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R882 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R883 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R884 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R885 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R886 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R890 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R891 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R900 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R901 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R902 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R903 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R904 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R905 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R906 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R907 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R908 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R909 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R910 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R911 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R912 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R913 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R914 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R915 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |

<TEST PIN>

| | | |
|---|---|---|
| TP1 | * 1-537-864-11 | PIN, POST |
| TP2 | * 1-537-864-11 | PIN, POST |
| TP4 | * 1-537-864-11 | PIN, POST |
| TP12 | * 1-537-864-11 | PIN, POST |
| TP13 | * 1-537-864-11 | PIN, POST |

<CRYSTAL>

| | | |
|---|---|---|
| X1 | 1-579-996-21 | VIBRATOR, CERAMIC (20MHz) |
| X2 | 1-760-464-11 | VIBRATOR, CRYSTAL (4.9152MHz) |
| X101 | 1-767-655-21 | VIBRATOR, CRYSTAL (14.31818MHz) |
| X103 | 1-760-429-11 | VIBRATOR, CRYSTAL (14.5MHz) |
| X810 | 1-579-266-31 | CRYSTAL VIBRATOR (27MHz) |

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|---|---|---|
| | * A-1136-016-A | BK COMPL (D20) |
| | * A-1136-025-A | BK COMPL (D24)<br>**************** |
| | X-4034-952-1 | HEAT SINK ASSY, BK |
| | 1-923-514-85 | WIRE UL1533 AWG24 180MM WHT |
| | * 3-648-057-00 | NUT (ISO-4), U |
| | 3-899-248-01 | SCREW (M3X6) |
| | * 4-057-770-01 | INSULATOR |
| | 4-061-094-01 | SPRING |
| | * 4-072-117-01 | PANEL (BK), CONNECTOR |
| | 4-382-854-01 | SCREW (M3X8), P, SW (+) |
| | 4-623-699-01 | SCREW (3X5) |
| | 7-682-647-09 | SCREW +PS 3X6 |
| | 7-685-872-09 | SCREW +BVTT 3X8 (S) |
| | 7-685-873-09 | SCREW +BVTT 3X10 (S) |

<CAPACITOR>

| | | | | | |
|---|---|---|---|---|---|
| C20 | 1-126-355-11 | ELECT | 33µF | 20% | 160V |
| C100 | 1-163-089-00 | CERAMIC CHIP | 6PF | 0.5PF | 50V |
| C101 | 1-163-231-11 | CERAMIC CHIP | 15PF | 5% | 50V |
| C102 | 1-115-155-11 | ELECT CHIP | 22µF | 20% | 16V |
| C103 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C106 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C107 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C121 | 1-163-222-11 | CERAMIC CHIP | 5PF | 0.25PF | 50V |
| C130 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C131 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C135 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C136 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C137 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C138 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C140 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C141 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C142 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C143 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V |
| C144 | 1-164-346-11 | CERAMIC CHIP | 1µF | | 16V |
| C145 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C146 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C147 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C148 | 1-126-390-11 | ELECT CHIP | 22µF | 20% | 6.3V |
| C154 | 1-126-391-11 | ELECT CHIP | 47µF | 20% | 6.3V |
| C155 | 1-163-087-00 | CERAMIC CHIP | 4PF | 0.25PF | 50V |
| C156 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C157 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C158 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C159 | 1-163-257-11 | CERAMIC CHIP | 180PF | 5% | 50V |
| C160 | 1-107-364-11 | MYLAR | 0.01µF | 10% | 200V |
| C161 | 1-126-355-11 | ELECT | 33µF | 20% | 160V |
| C162 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C165 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C166 | 1-110-501-11 | CERAMIC CHIP | 0.33µF | 10% | 16V |
| C167 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C168 | 1-104-559-11 | FILM CHIP | 0.047µF | 5% | 16V |
| C169 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C170 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C171 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C172 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C173 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C174 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C175 | 1-107-823-11 | CERAMIC CHIP | 0.47µF | 10% | 16V |
| C176 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C177 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V |
| C178 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C180 | 1-163-127-00 | CERAMIC CHIP | 270PF | 5% | 50V |
| C300 | 1-163-227-11 | CERAMIC CHIP | 10PF | 0.5PF | 50V |
| C301 | 1-163-229-11 | CERAMIC CHIP | 12PF | 5% | 50V |
| C302 | 1-115-155-11 | ELECT CHIP | 22µF | 20% | 16V |
| C303 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C306 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C307 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C310 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C311 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C312 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C313 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C315 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C316 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C317 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C318 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V |
| C319 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C320 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C321 | 1-163-222-11 | CERAMIC CHIP | 5PF | 0.25PF | 50V |
| C325 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C326 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C330 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C331 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C335 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C336 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C337 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C338 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C340 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C341 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C342 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C343 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V |
| C344 | 1-164-346-11 | CERAMIC CHIP | 1µF | | 16V |
| C345 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C346 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C347 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C348 | 1-126-390-11 | ELECT CHIP | 22µF | 20% | 6.3V |
| C355 | 1-163-087-00 | CERAMIC CHIP | 4PF | 0.25PF | 50V |
| C356 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C357 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C358 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C359 | 1-163-257-11 | CERAMIC CHIP | 180PF | 5% | 50V |
| C360 | 1-107-364-11 | MYLAR | 0.01µF | 10% | 200V |
| C361 | 1-126-355-11 | ELECT | 33µF | 20% | 160V |
| C362 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C365 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C366 | 1-110-501-11 | CERAMIC CHIP | 0.33µF | 10% | 16V |
| C367 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C368 | 1-104-559-11 | FILM CHIP | 0.047µF | 5% | 16V |
| C369 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C370 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C371 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C372 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C373 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C374 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C375 | 1-107-823-11 | CERAMIC CHIP | 0.47µF | 10% | 16V |
| C376 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C377 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V |
| C378 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C380 | 1-163-127-00 | CERAMIC CHIP | 270PF | 5% | 50V |
| C500 | 1-163-227-11 | CERAMIC CHIP | 10PF | 0.5PF | 50V |
| C501 | 1-163-229-11 | CERAMIC CHIP | 12PF | 5% | 50V |
| C502 | 1-115-155-11 | ELECT CHIP | 22µF | 20% | 16V |
| C503 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C506 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C507 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C510 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C511 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C512 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C513 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C514 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C515 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C516 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C517 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C518 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V |
| C519 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C520 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C521 | 1-163-222-11 | CERAMIC CHIP | 5PF | 0.25PF | 50V |
| C530 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C531 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C535 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C536 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C537 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C538 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C540 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C541 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C542 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C543 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V |
| C544 | 1-164-346-11 | CERAMIC CHIP | 1µF | | 16V |
| C545 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C546 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C547 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C548 | 1-126-390-11 | ELECT CHIP | 22µF | 20% | 6.3V |
| C555 | 1-163-087-00 | CERAMIC CHIP | 4PF | 0.25PF | 50V |
| C556 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C557 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C558 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C559 | 1-163-257-11 | CERAMIC CHIP | 180PF | 5% | 50V |
| C560 | 1-107-364-11 | MYLAR | 0.01µF | 10% | 200V |
| C561 | 1-126-355-11 | ELECT | 33µF | 20% | 160V |
| C562 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C565 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C566 | 1-110-501-11 | CERAMIC CHIP | 0.33µF | 10% | 16V |
| C567 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C568 | 1-104-559-11 | FILM CHIP | 0.047µF | 5% | 16V |
| C569 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C570 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C571 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C572 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C573 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C574 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C575 | 1-107-823-11 | CERAMIC CHIP | 0.47µF | 10% | 16V |
| C576 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C577 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V |
| C578 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C580 | 1-163-127-00 | CERAMIC CHIP | 270PF | 5% | 50V |
| C700 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C701 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C702 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C703 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C704 | 1-126-391-11 | ELECT CHIP | 47µF | 20% | 6.3V |

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| Ref.No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| C705 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C706 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C707 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C708 | 1-115-153-11 | ELECT CHIP | 4.7µF | 20% | 16V | |
| C709 | 1-107-960-11 | ELECT | 4.7µF | 20% | 160V | |
| C710 | 1-107-364-11 | MYLAR | 0.01µF | 10% | 200V | |
| C711 | 1-107-943-11 | ELECT | 10µF | 20% | 160V | |
| C712 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C713 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C728 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V | |
| C729 | 1-104-563-11 | FILM CHIP | 0.1µF | 5% | 16V | |
| C734 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C740 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V | |
| C741 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V | |
| C751 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V | |
| C770 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C782 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C783 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C800 | 1-163-089-00 | CERAMIC CHIP | 6PF | 0.5PF | 50V | |
| C801 | 1-163-231-11 | CERAMIC CHIP | 15PF | 5% | 50V | |
| C804 | 1-115-155-11 | ELECT CHIP | 22µF | 20% | 16V | |
| C805 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C806 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C807 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C808 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C809 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C810 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C812 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C813 | 1-126-394-11 | ELECT CHIP | 10µF | 20% | 16V | |
| C814 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V | |
| C815 | 1-163-257-11 | CERAMIC CHIP | 180PF | 5% | 50V | |
| C816 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V | |
| C817 | 1-126-401-21 | ELECT CHIP | 1µF | 20% | 50V | |
| C818 | 1-126-390-11 | ELECT CHIP | 22µF | 20% | 6.3V | |
| C820 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V | |
| C821 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V | |
| C822 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V | |
| C823 | 1-128-235-11 | ELECT CHIP | 0.47µF | 20% | 50V | |
| C824 | 1-109-982-11 | CERAMIC CHIP | 1µF | 10% | 10V | |
| C825 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V | |
| C826 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V | |
| C827 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C828 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V | |
| C829 | 1-164-161-11 | CERAMIC CHIP | 0.0022µF | 10% | 50V | |
| C830 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V | |
| C831 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V | |
| C832 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V | |
| C833 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V | |
| C834 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V | |
| C835 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V | |
| C836 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V | |
| C837 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V | |
| C838 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V | |
| C839 | 1-163-275-11 | CERAMIC CHIP | 0.001µF | 5% | 50V | |
| C840 | 1-163-019-00 | CERAMIC CHIP | 0.0068µF | 10% | 50V | |
| C841 | 1-164-346-11 | CERAMIC CHIP | 1µF | | 16V | |
| C842 | 1-163-263-11 | CERAMIC CHIP | 330PF | 5% | 50V | |
| C847 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C851 | 1-126-168-11 | ELECT | 1000µF | 20% | 6.3V | |
| C852 | 1-126-391-11 | ELECT CHIP | 47µF | 20% | 6.3V | |
| C853 | 1-126-168-11 | ELECT | 1000µF | 20% | 6.3V | |
| C863 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C900 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C901 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C902 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C903 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C904 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C905 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C907 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C908 | 1-163-035-00 | CERAMIC CHIP | 0.047µF | | 50V | |
| C909 | 1-164-346-11 | CERAMIC CHIP | 1µF | | 16V | |
| C910 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V | |
| C911 | 1-163-035-00 | CERAMIC CHIP | 0.047µF | | 50V | |
| C914 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C915 | 1-163-035-00 | CERAMIC CHIP | 0.047µF | | 50V | |
| C917 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C918 | 1-164-161-11 | CERAMIC CHIP | 0.0022µF | 10% | 50V | |
| C921 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V | |
| C924 | 1-126-391-11 | ELECT CHIP | 47µF | 20% | 6.3V | |
| C925 | 1-126-391-11 | ELECT CHIP | 47µF | 20% | 6.3V | |
| C926 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V | |
| C928 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C930 | 1-126-390-11 | ELECT CHIP | 22µF | 20% | 6.3V | |
| C931 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V | |
| C1000 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V | |
| C1001 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1002 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1003 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V | |
| C1010 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V | |
| C1011 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V | |
| C1012 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V | |
| C1013 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V | |
| C1014 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V | |
| C1015 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V | |
| C1020 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1021 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1022 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1023 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1024 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1025 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1026 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1027 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1028 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1029 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1030 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1031 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1032 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1033 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1034 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1035 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1036 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1037 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1038 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1039 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1060 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1061 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1062 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1063 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1065 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C1066 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C1067 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V | |
| C1068 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C1069 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C1070 | 1-164-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V | |
| C1071 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C1072 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C1073 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V | |
| C1080 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |
| C1081 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V | |
| C1082 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V | |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C1083 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C1200 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C1201 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1202 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1203 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C1210 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C1211 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C1212 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C1213 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C1214 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C1215 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C1221 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1222 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1223 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1224 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1225 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1226 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1227 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1228 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1229 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1230 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1231 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1232 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1233 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1234 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1235 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1236 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1237 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1238 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1239 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1260 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1261 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1262 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1263 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1265 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1266 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1267 | 1-164-340-11 | CERAMIC CHIP | 2.2µF | 10% | 25V |
| C1268 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1269 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1270 | 1-164-340-11 | CERAMIC CHIP | 2.2µF | 10% | 25V |
| C1271 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1272 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1273 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1280 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1281 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C1282 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1283 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C1400 | 1-126-397-11 | ELECT CHIP | 33µF | 20% | 25V |
| C1401 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1402 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1403 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C1410 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C1411 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C1412 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C1420 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1421 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1422 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1423 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1424 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1425 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1426 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1427 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1428 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1460 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1461 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C1462 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1600 | 1-126-397-11 | ELECT CHIP | 33µF | 20% | 25V |
| C1601 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1602 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1603 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C1610 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C1611 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C1612 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C1620 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1621 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1622 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1623 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1624 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1625 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1626 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1627 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1628 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1660 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1661 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C1662 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| | <CONNECTOR> | | | | |
| CN1 | * 1-774-523-11 | PIN, CONNECTOR (PC BOARD) 64P | | | |
| CN2 | * 1-691-408-11 | CONNECTOR, BOARD TO BOARD 7P | | | |
| CN3 | * 1-691-408-11 | CONNECTOR, BOARD TO BOARD 7P | | | |
| CN4 | * 1-691-408-11 | CONNECTOR, BOARD TO BOARD 7P | | | |
| CN5 | * 1-564-507-11 | PLUG, CONNECTOR 4P | | | |
| CN6 | * 1-564-507-11 | PLUG, CONNECTOR 4P | | | |
| CN7 | * 1-564-507-11 | PLUG, CONNECTOR 4P | | | |
| CN8 | * 1-564-506-11 | PLUG, CONNECTOR 3P | | | |
| | <TRIMMER> | | | | |
| CV100 | 1-141-444-11 | CAP, CERAMIC TRIMMER 50PF | | | |
| CV300 | 1-141-444-11 | CAP, CERAMIC TRIMMER 50PF | | | |
| CV500 | 1-141-444-11 | CAP, CERAMIC TRIMMER 50PF | | | |
| | <DIODE> | | | | |
| D1 | 8-719-016-74 | DIODE 1SS352 | | | |
| D20 | 8-719-063-74 | DIODE D1NL20U-TR2 | | | |
| D102 | 8-719-016-74 | DIODE 1SS352 | | | |
| D103 | 8-719-016-74 | DIODE 1SS352 | | | |
| D105 | 8-719-016-74 | DIODE 1SS352 | | | |
| D106 | 8-719-016-74 | DIODE 1SS352 | | | |
| D107 | 8-719-016-74 | DIODE 1SS352 | | | |
| D108 | 8-719-016-74 | DIODE 1SS352 | | | |
| D110 | 8-719-016-74 | DIODE 1SS352 | | | |
| D112 | 8-719-016-74 | DIODE 1SS352 | | | |
| D113 | 8-719-016-74 | DIODE 1SS352 | | | |
| D114 | 8-719-157-72 | DIODE RD22M-B | | | |
| D115 | 8-719-016-74 | DIODE 1SS352 | | | |
| D116 | 8-719-016-74 | DIODE 1SS352 | | | |
| D117 | 8-719-901-83 | DIODE 1SS83 | | | |
| D118 | 8-719-901-83 | DIODE 1SS83 | | | |
| D121 | 8-719-016-74 | DIODE 1SS352 | | | |
| D125 | 8-719-045-99 | DIODE RD2.2M-T1B | | | |
| D126 | 8-719-045-99 | DIODE RD2.2M-T1B | | | |
| D127 | 8-719-016-74 | DIODE 1SS352 | | | |
| D302 | 8-719-016-74 | DIODE 1SS352 | | | |
| D303 | 8-719-016-74 | DIODE 1SS352 | | | |
| D305 | 8-719-016-74 | DIODE 1SS352 | | | |
| D306 | 8-719-016-74 | DIODE 1SS352 | | | |
| D307 | 8-719-016-74 | DIODE 1SS352 | | | |

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| D308 | 8-719-016-74 | DIODE 1SS352 | |
| D310 | 8-719-016-74 | DIODE 1SS352 | |
| D312 | 8-719-016-74 | DIODE 1SS352 | |
| D313 | 8-719-016-74 | DIODE 1SS352 | |
| D314 | 8-719-157-72 | DIODE RD22M-B | |
| D315 | 8-719-016-74 | DIODE 1SS352 | |
| D316 | 8-719-016-74 | DIODE 1SS352 | |
| D317 | 8-719-901-83 | DIODE 1SS83 | |
| D318 | 8-719-901-83 | DIODE 1SS83 | |
| D320 | 8-719-016-74 | DIODE 1SS352 | |
| D321 | 8-719-016-74 | DIODE 1SS352 | |
| D325 | 8-719-045-99 | DIODE RD2.2M-T1B | |
| D326 | 8-719-045-99 | DIODE RD2.2M-T1B | |
| D327 | 8-719-016-74 | DIODE 1SS352 | |
| D502 | 8-719-016-74 | DIODE 1SS352 | |
| D503 | 8-719-016-74 | DIODE 1SS352 | |
| D505 | 8-719-016-74 | DIODE 1SS352 | |
| D506 | 8-719-016-74 | DIODE 1SS352 | |
| D507 | 8-719-016-74 | DIODE 1SS352 | |
| D508 | 8-719-016-74 | DIODE 1SS352 | |
| D510 | 8-719-016-74 | DIODE 1SS352 | |
| D512 | 8-719-016-74 | DIODE 1SS352 | |
| D513 | 8-719-016-74 | DIODE 1SS352 | |
| D514 | 8-719-157-72 | DIODE RD22M-B | |
| D515 | 8-719-016-74 | DIODE 1SS352 | |
| D516 | 8-719-016-74 | DIODE 1SS352 | |
| D517 | 8-719-901-83 | DIODE 1SS83 | |
| D518 | 8-719-901-83 | DIODE 1SS83 | |
| D520 | 8-719-016-74 | DIODE 1SS352 | |
| D521 | 8-719-016-74 | DIODE 1SS352 | |
| D525 | 8-719-045-99 | DIODE RD2.2M-T1B | |
| D526 | 8-719-045-99 | DIODE RD2.2M-T1B | |
| D527 | 8-719-016-74 | DIODE 1SS352 | |
| D802 | 8-719-016-74 | DIODE 1SS352 | |
| D803 | 8-719-016-74 | DIODE 1SS352 | |
| D804 | 8-719-016-74 | DIODE 1SS352 | |
| D805 | 8-719-016-74 | DIODE 1SS352 | |
| D806 | 8-719-016-74 | DIODE 1SS352 | |
| D900 | 8-719-158-15 | DIODE RD5.6SB | |
| D901 | 8-719-016-74 | DIODE 1SS352 | |
| D902 | 8-719-016-74 | DIODE 1SS352 | |
| D903 | 8-719-016-74 | DIODE 1SS352 | |
| D904 | 8-719-016-74 | DIODE 1SS352 | |
| D905 | 8-719-016-74 | DIODE 1SS352 | |
| D906 | 8-719-016-74 | DIODE 1SS352 | |
| | <DELAY LINE> | | |
| DL1 | 1-416-475-21 | DELAY LINE | |
| DL2 | 1-416-475-21 | DELAY LINE | |
| DL3 | 1-416-475-21 | DELAY LINE | |
| | <FILTER> | | |
| FL900 | 1-239-480-11 | FILTER, EMI | |
| FL901 | 1-239-480-11 | FILTER, EMI | |
| FL902 | 1-239-183-11 | FILTER, EMI | |
| | <IC> | | |
| IC1 | 8-759-144-82 | IC µPC2405HF | |
| IC2 | 8-759-247-67 | IC LM2990T-5.0 | |
| IC3 | 8-759-701-79 | IC NJM7812FA | |
| IC4 | 8-759-701-88 | IC NJM7912FA | |
| IC5 | 8-759-144-82 | IC µPC2405HF | |

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| IC6 | 8-759-247-67 | IC LM2990T-5.0 | |
| IC100 | 8-759-011-65 | IC MC74HC4053F | |
| IC101 | 8-759-981-48 | IC TL082M | |
| IC110 | 8-759-011-65 | IC MC74HC4053F | |
| IC111 | 8-759-981-48 | IC TL082M | |
| IC112 | 8-759-011-65 | IC MC74HC4053F | |
| IC113 | 8-759-981-48 | IC TL082M | |
| IC115 | 8-759-011-65 | IC MC74HC4053F | |
| IC116 | 8-759-182-47 | IC CLC520AJE-L | |
| IC117 | 8-759-981-48 | IC TL082M | |
| IC118 | 8-759-011-63 | IC MC74HC4051F | |
| IC120 | 8-759-011-65 | IC MC74HC4053F | |
| IC121 | 8-759-988-13 | IC LM393PS | |
| IC122 | 8-759-981-48 | IC TL082M | |
| IC123 | 8-759-981-48 | IC TL082M | |
| IC124 | 8-759-011-65 | IC MC74HC4053F | |
| IC125 | 8-759-476-12 | IC EL2082CS-TE2 | |
| IC126 | 8-759-476-12 | IC EL2082CS-TE2 | |
| IC127 | 8-759-981-48 | IC TL082M | |
| IC128 | 8-759-011-65 | IC MC74HC4053F | |
| IC129 | 8-759-271-04 | IC LT1252CS8 | |
| IC130 | 8-759-981-48 | IC TL082M | |
| IC132 | 8-759-981-48 | IC TL082M | |
| IC300 | 8-759-011-65 | IC MC74HC4053F | |
| IC301 | 8-759-981-48 | IC TL082M | |
| IC302 | 8-759-981-48 | IC TL082M | |
| IC303 | 8-759-011-65 | IC MC74HC4053F | |
| IC304 | 8-759-182-47 | IC CLC520AJE-L | |
| IC305 | 8-759-981-48 | IC TL082M | |
| IC306 | 8-752-053-21 | IC CXA1211M | |
| IC307 | 8-759-271-04 | IC LT1252CS8 | |
| IC310 | 8-759-011-65 | IC MC74HC4053F | |
| IC311 | 8-759-981-48 | IC TL082M | |
| IC312 | 8-759-011-65 | IC MC74HC4053F | |
| IC313 | 8-759-981-48 | IC TL082M | |
| IC315 | 8-759-011-65 | IC MC74HC4053F | |
| IC316 | 8-759-182-47 | IC CLC520AJE-L | |
| IC317 | 8-759-981-48 | IC TL082M | |
| IC318 | 8-759-011-63 | IC MC74HC4051F | |
| IC320 | 8-759-011-65 | IC MC74HC4053F | |
| IC321 | 8-759-988-13 | IC LM393PS | |
| IC322 | 8-759-981-48 | IC TL082M | |
| IC323 | 8-759-981-48 | IC TL082M | |
| IC324 | 8-759-011-65 | IC MC74HC4053F | |
| IC325 | 8-759-476-12 | IC EL2082CS-TE2 | |
| IC326 | 8-759-476-12 | IC EL2082CS-TE2 | |
| IC327 | 8-759-981-48 | IC TL082M | |
| IC328 | 8-759-011-65 | IC MC74HC4053F | |
| IC329 | 8-759-271-04 | IC LT1252CS8 | |
| IC330 | 8-759-981-48 | IC TL082M | |
| IC332 | 8-759-981-48 | IC TL082M | |
| IC500 | 8-759-011-65 | IC MC74HC4053F | |
| IC501 | 8-759-981-48 | IC TL082M | |
| IC502 | 8-759-981-48 | IC TL082M | |
| IC503 | 8-759-011-65 | IC MC74HC4053F | |
| IC504 | 8-759-182-47 | IC CLC520AJE-L | |
| IC505 | 8-759-981-48 | IC TL082M | |
| IC506 | 8-759-082-61 | IC TC4W53FU | |
| IC507 | 8-759-058-54 | IC TC7S00FU(TE85R) | |
| IC510 | 8-759-011-65 | IC MC74HC4053F | |
| IC511 | 8-759-981-48 | IC TL082M | |
| IC512 | 8-759-011-65 | IC MC74HC4053F | |
| IC513 | 8-759-981-48 | IC TL082M | |
| IC515 | 8-759-011-65 | IC MC74HC4053F | |
| IC516 | 8-759-182-47 | IC CLC520AJE-L | |

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| IC517 | 8-759-981-48 | IC TL082M | |
| IC518 | 8-759-011-63 | IC MC74HC4051F | |
| IC520 | 8-759-011-65 | IC MC74HC4053F | |
| IC521 | 8-759-988-13 | IC LM393PS | |
| IC522 | 8-759-981-48 | IC TL082M | |
| IC523 | 8-759-981-48 | IC TL082M | |
| IC524 | 8-759-011-65 | IC MC74HC4053F | |
| IC525 | 8-759-476-12 | IC EL2082CS-TE2 | |
| IC526 | 8-759-476-12 | IC EL2082CS-TE2 | |
| IC527 | 8-759-981-48 | IC TL082M | |
| IC528 | 8-759-011-65 | IC MC74HC4053F | |
| IC529 | 8-759-271-04 | IC LT1252CS8 | |
| IC530 | 8-759-981-48 | IC TL082M | |
| IC532 | 8-759-981-48 | IC TL082M | |
| IC700 | 8-759-988-13 | IC LM393PS | |
| IC701 | 8-759-011-65 | IC MC74HC4053F | |
| IC702 | 8-759-011-65 | IC MC74HC4053F | |
| IC703 | 8-759-988-13 | IC LM393PS | |
| IC704 | 8-759-981-48 | IC TL082M | |
| IC705 | 8-759-981-48 | IC TL082M | |
| IC706 | 8-759-346-42 | IC TDA6101Q/N3 | |
| IC707 | 8-759-083-94 | IC TC7W74FU | |
| IC708 | 8-759-082-61 | IC TC4W53FU | |
| IC710 | 8-759-008-45 | IC MC74HC4538F | |
| IC711 | 8-759-058-62 | IC TC7S08FU(TE85R) | |
| IC728 | 8-759-032-01 | IC MC74HC00AF | |
| IC730 | 8-759-925-72 | IC SN74HC02ANS | |
| IC731 | 8-759-925-80 | IC SN74HC14ANS | |
| IC732 | 8-759-649-75 | IC MC74HC175AFEL | |
| IC734 | 8-759-235-27 | IC TC74HC11AF(EL) | |
| IC735 | 8-759-925-72 | IC SN74HC02ANS | |
| IC736 | 8-759-925-72 | IC SN74HC02ANS | |
| IC800 | 8-759-011-65 | IC MC74HC4053F | |
| IC801 | 8-759-008-45 | IC MC74HC4538F | |
| IC802 | 8-759-100-96 | IC µPC4558G2 | |
| IC803 | 8-759-523-04 | IC MC74HC4538AFT(EL) | |
| IC804 | 8-759-008-45 | IC MC74HC4538F | |
| IC805 | 8-759-058-56 | IC TC7S02FU(TE85R) | |
| IC806 | 8-759-011-65 | IC MC74HC4053F | |
| IC808 | 8-759-082-61 | IC TC4W53FU | |
| IC809 | 8-759-082-61 | IC TC4W53FU | |
| IC810 | 8-759-082-61 | IC TC4W53FU | |
| IC811 | 8-759-586-19 | IC TC7WH123FU(TE12R) | |
| IC900 | 8-759-032-26 | IC MC74HC125AF | |
| IC901 | 8-759-981-48 | IC TL082M | |
| IC902 | 8-759-546-25 | IC MB89613R-560 | |
| IC903 | 8-759-156-54 | IC X25040SI | |
| IC904 | 8-759-988-13 | IC LM393PS | |
| IC905 | 8-759-032-53 | IC MC74HC244AF | |
| IC906 | 8-759-059-50 | IC MB88351PFV | |
| IC907 | 8-759-059-50 | IC MB88351PFV | |
| IC908 | 8-759-064-36 | IC MB88346BPFV | |
| IC909 | 8-759-059-50 | IC MB88351PFV | |
| IC910 | 8-759-064-36 | IC MB88346BPFV | |
| IC911 | 8-759-059-50 | IC MB88351PFV | |
| IC912 | 8-759-082-59 | IC TC7W32FU | |
| IC914 | 8-759-058-64 | IC TC7S32FU(TE85R) | |
| | <COIL> | | |
| L728 | 1-412-280-31 | INDUCTOR 330µH | |
| L900 | 1-412-002-31 | INDUCTOR CHIP 4.7µH | |

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| | <TRANSISTOR> | | |
| Q20 | 8-729-903-68 | TRANSISTOR 2SD982 | |
| Q100 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q101 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q102 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q103 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q104 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q105 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q108 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q109 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q110 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q115 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q116 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q117 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q120 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q121 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q122 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q124 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q125 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q130 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q131 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q132 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q133 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q134 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q135 | 8-729-033-31 | TRANSISTOR 2SK520K44K45-T1B | |
| Q136 | 8-729-105-08 | TRANSISTOR 2SA1330-06 | |
| Q137 | 8-729-105-37 | TRANSISTOR 2SC3360-N16 | |
| Q138 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q139 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q300 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q301 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q302 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q303 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q304 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q305 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q307 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q308 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q310 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q311 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q312 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q315 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q316 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q317 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q320 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q321 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q322 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q324 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q325 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q330 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q331 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q332 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q333 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q334 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q335 | 8-729-033-31 | TRANSISTOR 2SK520K44K45-T1B | |
| Q336 | 8-729-105-08 | TRANSISTOR 2SA1330-06 | |
| Q337 | 8-729-105-37 | TRANSISTOR 2SC3360-N16 | |
| Q338 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q500 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q501 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q502 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q503 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q504 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q505 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q507 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| Q508 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q510 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q515 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q516 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q517 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q520 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q521 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q522 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q524 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q525 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q529 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q530 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q531 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q532 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q533 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q534 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q535 | 8-729-033-31 | TRANSISTOR 2SK520K44K45-T1B | |
| Q536 | 8-729-105-08 | TRANSISTOR 2SA1330-06 | |
| Q537 | 8-729-105-37 | TRANSISTOR 2SC3360-N16 | |
| Q538 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q700 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q701 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q702 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q703 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q728 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q729 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q800 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q801 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q802 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q803 | 8-729-920-59 | TRANSISTOR IMX2-T109 | |
| Q804 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q805 | 8-729-920-59 | TRANSISTOR IMX2-T109 | |
| Q806 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q807 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | |
| Q808 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q809 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q810 | 8-729-925-42 | TRANSISTOR IMT2 | |
| Q811 | 8-729-925-42 | TRANSISTOR IMT2 | |
| Q812 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q813 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q814 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q815 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q816 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | |
| Q817 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q818 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q819 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q820 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q821 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q822 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q823 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q824 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q825 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q826 | 8-729-202-38 | TRANSISTOR 2SC3326N-A | |
| Q827 | 8-729-202-38 | TRANSISTOR 2SC3326N-A | |
| Q828 | 8-729-026-50 | TRANSISTOR 2SA1037AK-T-146-QR | |
| Q829 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q830 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q831 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q832 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q833 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q834 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q900 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q901 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q902 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | <RESISTOR> | | | | |
| R10 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R11 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R12 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R13 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R14 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R20 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F |
| R21 | 1-249-428-11 | CARBON | 8.2K | 5% | 1/4W F |
| R100 | 1-216-085-00 | RES,CHIP | 33K | 5% | 1/10W |
| R101 | 1-216-107-00 | RES,CHIP | 270K | 5% | 1/10W |
| R102 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R103 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R104 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R105 | 1-216-051-00 | RES,CHIP | 1.2K | 5% | 1/10W |
| R106 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R107 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R108 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R109 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R110 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R115 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R117 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R118 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R119 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R120 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R121 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R122 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R123 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R124 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R126 | 1-216-666-11 | METAL CHIP | 4.3K | 0.50% | 1/10W |
| R127 | 1-218-762-11 | METAL CHIP | 270K | 0.50% | 1/10W |
| R128 | 1-218-776-11 | METAL CHIP | 1M | 0.50% | 1/10W |
| R149 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R150 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R155 | 1-216-643-11 | METAL CHIP | 470 | 0.50% | 1/10W |
| R156 | 1-216-643-11 | METAL CHIP | 470 | 0.50% | 1/10W |
| R157 | 1-216-643-11 | METAL CHIP | 470 | 0.50% | 1/10W |
| R158 | 1-216-643-11 | METAL CHIP | 470 | 0.50% | 1/10W |
| R159 | 1-216-047-91 | RES,CHIP | 820 | 5% | 1/10W |
| R166 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R170 | 1-216-640-11 | METAL CHIP | 360 | 0.50% | 1/10W |
| R172 | 1-216-638-11 | METAL CHIP | 300 | 0.50% | 1/10W |
| R173 | 1-216-649-11 | METAL CHIP | 820 | 0.50% | 1/10W |
| R174 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R175 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R176 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R177 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R180 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R181 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R182 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R183 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R184 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R185 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R186 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R187 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R188 | 1-216-129-00 | METAL CHIP | 2.2M | 5% | 1/10W |
| R189 | 1-216-666-11 | METAL CHIP | 4.3K | 0.50% | 1/10W |
| R192 | 1-216-637-11 | METAL CHIP | 270 | 0.50% | 1/10W |
| R193 | 1-216-635-11 | METAL CHIP | 220 | 0.50% | 1/10W |
| R194 | 1-216-633-11 | METAL CHIP | 180 | 0.50% | 1/10W |
| R195 | 1-216-071-00 | RES,CHIP | 8.2K | 5% | 1/10W |
| R196 | 1-216-071-00 | RES,CHIP | 8.2K | 5% | 1/10W |
| R200 | 1-218-764-11 | METAL CHIP | 330K | 0.50% | 1/10W |
| R201 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R202 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R203 | 1-216-692-11 | METAL CHIP | 51K | 0.50% | 1/10W |
| R204 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R205 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R206 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R207 | 1-216-067-00 | RES,CHIP | 5.6K | 5% | 1/10W |
| R210 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R211 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R212 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R213 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R214 | 1-216-662-11 | METAL CHIP | 3K | 0.50% | 1/10W |
| R215 | 1-216-043-91 | RES,CHIP | 560 | 5% | 1/10W |
| R216 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R217 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R219 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R220 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R221 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R222 | 1-216-047-91 | RES,CHIP | 820 | 5% | 1/10W |
| R223 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W |
| R224 | 1-216-654-11 | METAL CHIP | 1.3K | 0.50% | 1/10W |
| R225 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R226 | 1-216-047-91 | RES,CHIP | 820 | 5% | 1/10W |
| R230 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R231 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R232 | 1-216-650-11 | METAL CHIP | 910 | 0.50% | 1/10W |
| R233 | 1-216-658-11 | METAL CHIP | 2K | 0.50% | 1/10W |
| R234 | 1-216-644-11 | METAL CHIP | 510 | 0.50% | 1/10W |
| R235 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R236 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R237 | 1-216-627-11 | METAL CHIP | 100 | 0.50% | 1/10W |
| R238 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R239 | 1-216-697-91 | METAL CHIP | 82K | 0.50% | 1/10W |
| R240 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R241 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R242 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R243 | 1-216-629-11 | METAL CHIP | 120 | 0.50% | 1/10W |
| R244 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R245 | 1-216-603-11 | METAL CHIP | 10 | 0.50% | 1/10W |
| R246 | 1-216-603-11 | METAL CHIP | 10 | 0.50% | 1/10W |
| R247 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R248 | 1-216-689-11 | RES,CHIP | 39K | 5% | 1/10W |
| R249 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R250 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R251 | 1-219-743-11 | CARBON | 100 | 5% | 1/2W |
| R252 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R253 | 1-216-603-11 | METAL CHIP | 10 | 0.50% | 1/10W |
| R254 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R255 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R256 | 1-216-105-91 | RES,CHIP | 220K | 5% | 1/10W |
| R257 | 1-216-113-00 | RES,CHIP | 470K | 5% | 1/10W |
| R258 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R260 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R261 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R262 | 1-216-673-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R263 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R264 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R265 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R266 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R267 | 1-216-678-11 | METAL CHIP | 13K | 0.50% | 1/10W |
| R268 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R269 | 1-216-069-00 | RES,CHIP | 6.8K | 0.50% | 1/10W |
| R270 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R271 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R272 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R273 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R274 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |
| R275 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R276 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R277 | 1-216-669-11 | METAL CHIP | 5.6K | 0.50% | 1/10W |
| R278 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R279 | 1-216-695-11 | METAL CHIP | 68K | 0.50% | 1/10W |
| R280 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R281 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R282 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R283 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R290 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R291 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R300 | 1-216-085-00 | RES,CHIP | 33K | 5% | 1/10W |
| R301 | 1-216-107-00 | RES,CHIP | 270K | 5% | 1/10W |
| R302 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R303 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R304 | 1-216-015-00 | RES,CHIP | 39 | 5% | 1/10W |
| R305 | 1-216-051-00 | RES,CHIP | 1.2K | 5% | 1/10W |
| R306 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R307 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R308 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R309 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R310 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R315 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R317 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R318 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R319 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R320 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R321 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R322 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R323 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R324 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R325 | 1-218-776-11 | METAL CHIP | 1M | 0.50% | 1/10W |
| R326 | 1-216-666-11 | METAL CHIP | 4.3K | 0.50% | 1/10W |
| R330 | 1-216-697-11 | METAL CHIP | 82K | 0.50% | 1/10W |
| R331 | 1-216-676-11 | METAL CHIP | 11K | 0.50% | 1/10W |
| R332 | 1-216-699-91 | METAL CHIP | 100K | 0.50% | 1/10W |
| R333 | 1-218-764-11 | METAL CHIP | 330K | 0.50% | 1/10W |
| R334 | 1-216-670-11 | METAL CHIP | 6.2K | 0.50% | 1/10W |
| R335 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R336 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R340 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R341 | 1-216-043-91 | RES,CHIP | 560 | 5% | 1/10W |
| R342 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R343 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R345 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R346 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R347 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R348 | 1-216-045-00 | RES,CHIP | 680 | 5% | 1/10W |
| R349 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R350 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R356 | 1-218-756-11 | METAL CHIP | 150K | 0.50% | 1/10W |
| R357 | 1-216-687-11 | METAL CHIP | 33K | 0.50% | 1/10W |
| R358 | 1-216-655-11 | METAL CHIP | 1.5K | 0.50% | 1/10W |
| R359 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R360 | 1-216-673-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R361 | 1-216-644-11 | METAL CHIP | 510 | 0.50% | 1/10W |
| R363 | 1-216-687-11 | METAL CHIP | 33K | 0.50% | 1/10W |
| R365 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R366 | 1-216-047-91 | RES,CHIP | 820 | 5% | 1/10W |
| R367 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R368 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R370 | 1-216-640-11 | METAL CHIP | 360 | 0.50% | 1/10W |
| R372 | 1-216-645-11 | METAL CHIP | 560 | 0.50% | 1/10W |
| R373 | 1-216-649-11 | METAL CHIP | 820 | 0.50% | 1/10W |
| R374 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R375 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R376 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |

# BK

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R377 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R380 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R381 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R382 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R383 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R384 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R385 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R386 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R387 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R388 | 1-216-129-00 | RES,CHIP | 2.2M | 0.50% | 1/10W |
| R389 | 1-216-666-11 | METAL CHIP | 4.3K | 0.50% | 1/10W |
| R392 | 1-216-637-11 | METAL CHIP | 270 | 0.50% | 1/10W |
| R393 | 1-216-635-11 | METAL CHIP | 220 | 0.50% | 1/10W |
| R394 | 1-216-633-11 | METAL CHIP | 180 | 0.50% | 1/10W |
| R395 | 1-216-071-00 | RES,CHIP | 8.2K | 5% | 1/10W |
| R396 | 1-216-071-00 | RES,CHIP | 8.2K | 5% | 1/10W |
| R400 | 1-218-764-11 | METAL CHIP | 330K | 0.50% | 1/10W |
| R401 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R402 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R403 | 1-216-692-11 | METAL CHIP | 51K | 0.50% | 1/10W |
| R404 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R405 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R406 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R407 | 1-216-067-00 | RES,CHIP | 5.6K | 5% | 1/10W |
| R410 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R411 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R412 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R413 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R414 | 1-216-662-11 | METAL CHIP | 3K | 0.50% | 1/10W |
| R415 | 1-216-043-91 | RES,CHIP | 560 | 5% | 1/10W |
| R416 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R417 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R419 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R420 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R421 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R422 | 1-216-047-91 | RES,CHIP | 820 | 5% | 1/10W |
| R423 | 1-216-687-11 | METAL CHIP | 33K | 0.50% | 1/10W |
| R424 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R425 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R426 | 1-216-047-91 | RES,CHIP | 820 | 5% | 1/10W |
| R430 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R431 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R432 | 1-216-650-11 | METAL CHIP | 910 | 0.50% | 1/10W |
| R433 | 1-216-658-11 | METAL CHIP | 2K | 0.50% | 1/10W |
| R434 | 1-216-644-11 | METAL CHIP | 510 | 0.50% | 1/10W |
| R435 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R436 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R437 | 1-216-627-11 | METAL CHIP | 100 | 0.50% | 1/10W |
| R438 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R439 | 1-216-697-91 | METAL CHIP | 82K | 0.50% | 1/10W |
| R440 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R441 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R442 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R443 | 1-216-629-11 | METAL CHIP | 120 | 0.50% | 1/10W |
| R444 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R445 | 1-216-603-11 | METAL CHIP | 10 | 0.50% | 1/10W |
| R446 | 1-216-603-11 | METAL CHIP | 10 | 0.50% | 1/10W |
| R447 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R448 | 1-216-689-11 | RES,CHIP | 39K | 5% | 1/10W |
| R449 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R450 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R451 | 1-219-743-11 | CARBON | 100 | 5% | 1/2W |
| R452 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R453 | 1-216-603-11 | METAL CHIP | 10 | 0.50% | 1/10W |
| R454 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R455 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R456 | 1-216-105-91 | RES,CHIP | 220K | 5% | 1/10W |
| R457 | 1-216-113-00 | RES,CHIP | 470K | 5% | 1/10W |
| R458 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R460 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R461 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R462 | 1-216-673-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R463 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R464 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R465 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R466 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R467 | 1-216-678-11 | METAL CHIP | 13K | 0.50% | 1/10W |
| R468 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R469 | 1-216-069-11 | RES,CHIP | 6.8K | 0.50% | 1/10W |
| R470 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R471 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R472 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R473 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R474 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |
| R475 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R476 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R477 | 1-216-669-11 | METAL CHIP | 5.6K | 0.50% | 1/10W |
| R478 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R479 | 1-216-695-11 | METAL CHIP | 68K | 0.50% | 1/10W |
| R480 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R481 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R482 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R483 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R490 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R491 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R500 | 1-216-085-00 | RES,CHIP | 33K | 5% | 1/10W |
| R501 | 1-216-107-00 | RES,CHIP | 270K | 5% | 1/10W |
| R502 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R503 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R504 | 1-216-015-00 | RES,CHIP | 39 | 5% | 1/10W |
| R505 | 1-216-051-00 | RES,CHIP | 1.2K | 5% | 1/10W |
| R506 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R507 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R508 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R509 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R510 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R515 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R517 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R518 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R519 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R520 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R521 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R522 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R523 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R524 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R525 | 1-218-776-11 | METAL CHIP | 1M | 0.50% | 1/10W |
| R526 | 1-216-666-11 | METAL CHIP | 4.3K | 0.50% | 1/10W |
| R530 | 1-216-699-91 | METAL CHIP | 100K | 0.50% | 1/10W |
| R531 | 1-216-674-11 | METAL CHIP | 9.1K | 0.50% | 1/10W |
| R532 | 1-216-699-91 | METAL CHIP | 100K | 0.50% | 1/10W |
| R533 | 1-218-764-11 | METAL CHIP | 330K | 0.50% | 1/10W |
| R534 | 1-216-670-11 | METAL CHIP | 6.2K | 0.50% | 1/10W |
| R535 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R536 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R537 | 1-216-697-91 | METAL CHIP | 82K | 0.50% | 1/10W |
| R538 | 1-216-693-11 | METAL CHIP | 56K | 0.50% | 1/10W |
| R540 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R541 | 1-216-043-91 | RES,CHIP | 560 | 5% | 1/10W |
| R542 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R543 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R545 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R546 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R547 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R548 | 1-216-045-00 | RES,CHIP | 680 | 5% | 1/10W |
| R549 | 1-216-039-00 | RES,CHIP | 390 | 5% | 1/10W |
| R550 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R555 | 1-216-643-11 | METAL CHIP | 470 | 0.50% | 1/10W |
| R556 | 1-216-643-11 | METAL CHIP | 470 | 0.50% | 1/10W |
| R557 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R558 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R566 | 1-216-047-91 | RES,CHIP | 820 | 5% | 1/10W |
| R570 | 1-216-640-11 | METAL CHIP | 360 | 0.50% | 1/10W |
| R572 | 1-216-638-11 | METAL CHIP | 300 | 0.50% | 1/10W |
| R573 | 1-216-649-11 | METAL CHIP | 820 | 0.50% | 1/10W |
| R574 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R575 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R576 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R577 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R580 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R581 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R582 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R583 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R584 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R585 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R586 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R587 | 1-216-019-00 | RES,CHIP | 56 | 5% | 1/10W |
| R588 | 1-216-129-00 | METAL CHIP | 2.2M | 5% | 1/10W |
| R589 | 1-216-666-11 | METAL CHIP | 4.3K | 0.50% | 1/10W |
| R592 | 1-216-637-11 | METAL CHIP | 270 | 0.50% | 1/10W |
| R593 | 1-216-635-11 | METAL CHIP | 220 | 0.50% | 1/10W |
| R594 | 1-216-633-11 | METAL CHIP | 180 | 0.50% | 1/10W |
| R595 | 1-216-071-00 | RES,CHIP | 8.2K | 5% | 1/10W |
| R596 | 1-216-071-00 | RES,CHIP | 8.2K | 5% | 1/10W |
| R600 | 1-218-764-11 | METAL CHIP | 330K | 0.50% | 1/10W |
| R601 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R602 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R603 | 1-216-692-11 | METAL CHIP | 51K | 0.50% | 1/10W |
| R604 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R605 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R606 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R607 | 1-216-067-00 | RES,CHIP | 5.6K | 5% | 1/10W |
| R608 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R609 | 1-216-043-91 | RES,CHIP | 560 | 5% | 1/10W |
| R610 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R611 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R612 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R613 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R614 | 1-216-662-11 | METAL CHIP | 3K | 0.50% | 1/10W |
| R615 | 1-216-043-91 | RES,CHIP | 560 | 5% | 1/10W |
| R616 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R617 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R619 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R620 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R621 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R622 | 1-216-047-91 | RES,CHIP | 820 | 5% | 1/10W |
| R623 | 1-216-687-11 | METAL CHIP | 33K | 0.50% | 1/10W |
| R624 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R625 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R626 | 1-216-047-91 | RES,CHIP | 820 | 5% | 1/10W |
| R630 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R631 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R632 | 1-216-650-11 | METAL CHIP | 910 | 0.50% | 1/10W |
| R633 | 1-216-658-11 | METAL CHIP | 2K | 0.50% | 1/10W |
| R634 | 1-216-644-11 | METAL CHIP | 510 | 0.50% | 1/10W |
| R635 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R636 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R637 | 1-216-627-11 | METAL CHIP | 100 | 0.50% | 1/10W |
| R638 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R639 | 1-216-697-91 | METAL CHIP | 82K | 0.50% | 1/10W |
| R640 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R641 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R642 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R643 | 1-216-629-11 | METAL CHIP | 120 | 0.50% | 1/10W |
| R644 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R645 | 1-216-603-11 | METAL CHIP | 10 | 0.50% | 1/10W |
| R646 | 1-216-603-11 | METAL CHIP | 10 | 0.50% | 1/10W |
| R647 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R648 | 1-216-689-11 | RES,CHIP | 39K | 5% | 1/10W |
| R649 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R650 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R651 | 1-219-743-11 | CARBON | 100 | 5% | 1/2W |
| R652 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R653 | 1-216-603-11 | METAL CHIP | 10 | 0.50% | 1/10W |
| R654 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R655 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R656 | 1-216-105-91 | RES,CHIP | 220K | 5% | 1/10W |
| R657 | 1-216-113-00 | RES,CHIP | 470K | 5% | 1/10W |
| R658 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R660 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R661 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R662 | 1-216-673-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R663 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R664 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R665 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R666 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R667 | 1-216-678-11 | METAL CHIP | 13K | 0.50% | 1/10W |
| R668 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R669 | 1-216-069-00 | RES,CHIP | 6.8K | 0.50% | 1/10W |
| R670 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R671 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R672 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R673 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R674 | 1-216-065-00 | RES,CHIP | 4.7K | 5% | 1/10W |
| R675 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R676 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R677 | 1-216-669-11 | METAL CHIP | 5.6K | 0.50% | 1/10W |
| R678 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R679 | 1-216-695-11 | METAL CHIP | 68K | 0.50% | 1/10W |
| R680 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R681 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R682 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R683 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R690 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R691 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R700 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R701 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R702 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R703 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R704 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R705 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R706 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R707 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R708 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R709 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R710 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R711 | 1-218-754-11 | METAL CHIP | 120K | 0.50% | 1/10W |
| R712 | 1-216-695-11 | METAL CHIP | 68K | 0.50% | 1/10W |
| R713 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R714 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R715 | 1-216-067-00 | RES,CHIP | 5.6K | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R716 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R717 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R718 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R719 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R720 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R721 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R722 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R723 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R724 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R725 | 1-214-903-31 | METAL | 39K | 1% | 1/2W |
| R726 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W |
| R727 | 1-219-743-11 | CARBON | 100 | 5% | 1/2W |
| R728 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R729 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R730 | 1-216-639-11 | METAL CHIP | 330 | 0.50% | 1/10W |
| R731 | 1-216-699-91 | METAL CHIP | 100K | 0.50% | 1/10W |
| R732 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R735 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R736 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R740 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R741 | 1-216-669-11 | METAL CHIP | 5.6K | 0.50% | 1/10W |
| R750 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R751 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R760 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R761 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R765 | 1-216-107-00 | RES,CHIP | 270K | 5% | 1/10W |
| R766 | 1-216-107-00 | RES,CHIP | 270K | 5% | 1/10W |
| R800 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R801 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R802 | 1-216-085-00 | RES,CHIP | 33K | 5% | 1/10W |
| R803 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R804 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R805 | 1-216-091-00 | RES,CHIP | 56K | 5% | 1/10W |
| R806 | 1-216-039-00 | RES,CHIP | 390 | 5% | 1/10W |
| R807 | 1-216-079-00 | RES,CHIP | 18K | 5% | 1/10W |
| R808 | 1-216-039-00 | RES,CHIP | 390 | 5% | 1/10W |
| R809 | 1-216-039-00 | RES,CHIP | 390 | 5% | 1/10W |
| R810 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R811 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R812 | 1-216-063-91 | RES,CHIP | 3.9K | 5% | 1/10W |
| R813 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R814 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R815 | 1-216-077-91 | RES,CHIP | 15K | 5% | 1/10W |
| R816 | 1-216-085-00 | RES,CHIP | 33K | 5% | 1/10W |
| R817 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R818 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R819 | 1-216-061-00 | RES,CHIP | 3.3K | 5% | 1/10W |
| R820 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R821 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R822 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R823 | 1-216-037-00 | RES,CHIP | 330 | 5% | 1/10W |
| R824 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R825 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R826 | 1-216-693-11 | METAL CHIP | 56K | 0.50% | 1/10W |
| R827 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R828 | 1-216-031-00 | RES,CHIP | 180 | 5% | 1/10W |
| R829 | 1-218-768-11 | METAL CHIP | 470K | 0.50% | 1/10W |
| R830 | 1-218-755-11 | METAL CHIP | 130K | 0.50% | 1/10W |
| R831 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R832 | 1-216-637-11 | METAL CHIP | 270 | 0.50% | 1/10W |
| R833 | 1-216-637-11 | METAL CHIP | 270 | 0.50% | 1/10W |
| R834 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R835 | 1-216-069-00 | RES,CHIP | 6.8K | 5% | 1/10W |
| R836 | 1-216-051-00 | RES,CHIP | 1.2K | 5% | 1/10W |
| R837 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R838 | 1-216-067-00 | RES,CHIP | 5.6K | 5% | 1/10W |
| R839 | 1-216-676-11 | METAL CHIP | 11K | 0.50% | 1/10W |
| R840 | 1-216-079-00 | RES,CHIP | 18K | 5% | 1/10W |
| R841 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R842 | 1-216-692-11 | METAL CHIP | 51K | 0.50% | 1/10W |
| R843 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R844 | 1-216-059-00 | RES,CHIP | 2.7K | 5% | 1/10W |
| R845 | 1-216-697-91 | METAL CHIP | 82K | 0.50% | 1/10W |
| R846 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W |
| R847 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R848 | 1-216-099-00 | RES,CHIP | 120K | 5% | 1/10W |
| R849 | 1-216-037-00 | RES,CHIP | 330 | 5% | 1/10W |
| R850 | 1-216-699-91 | METAL CHIP | 100K | 0.50% | 1/10W |
| R851 | 1-216-085-00 | RES,CHIP | 33K | 5% | 1/10W |
| R852 | 1-216-696-11 | METAL CHIP | 75K | 0.50% | 1/10W |
| R853 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R854 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R855 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R856 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R857 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R858 | 1-216-699-91 | METAL CHIP | 100K | 0.50% | 1/10W |
| R859 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R860 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R861 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R862 | 1-216-699-91 | METAL CHIP | 100K | 0.50% | 1/10W |
| R863 | 1-216-673-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R864 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R865 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R866 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R867 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R868 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R869 | 1-216-059-00 | RES,CHIP | 2.7K | 5% | 1/10W |
| R870 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R871 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R872 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R873 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R874 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R875 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R876 | 1-216-039-00 | RES,CHIP | 390 | 5% | 1/10W |
| R877 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R878 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R879 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R880 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R881 | 1-218-754-11 | METAL CHIP | 120K | 0.50% | 1/10W |
| R882 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R883 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R884 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R885 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R886 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R887 | 1-216-699-91 | METAL CHIP | 100K | 0.50% | 1/10W |
| R889 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R890 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R891 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R892 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R893 | 1-216-673-91 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R900 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R901 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R902 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R903 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R904 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R905 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R906 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R907 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R908 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W |
| R909 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R910 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R911 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R912 | 1-216-687-11 | METAL CHIP | 33K | 0.50% | 1/10W |
| R913 | 1-216-673-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R914 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R915 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R916 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R917 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R918 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R919 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R920 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R921 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R922 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W |
| R923 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R924 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R925 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R926 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R927 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R928 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R929 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R930 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R931 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R932 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R933 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R934 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R935 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R936 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R937 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R938 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R939 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R940 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R947 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R948 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R949 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R950 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R951 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R952 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R953 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R955 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R956 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R957 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R960 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R961 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R962 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R963 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R964 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R965 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R966 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R967 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R970 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R980 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| | <VARIABLE RESISTOR> | | | | |
| RV100 | 1-238-795-21 | RES, ADJ, CERMET 50 | | | |
| RV300 | 1-238-795-21 | RES, ADJ, CERMET 50 | | | |
| RV500 | 1-238-795-21 | RES, ADJ, CERMET 50 | | | |
| | <TERMINAL BOARD> | | | | |
| TB1 | 1-537-959-11 | TERMINAL BOARD ASSY, I/O | | | |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | <CRYSTAL> | | | | |
| X900 | 1-578-689-21 | VIBRATOR (8MHz) | | | |

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* A-1131-524-A BK1 MOUNT

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| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | <CAPACITOR> | | | | |
| C100 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C101 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C102 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C103 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C104 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C105 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C106 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C107 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C110 | 1-163-085-00 | CERAMIC CHIP | 2PF | 0.25PF | 50V |
| C111 | 1-163-257-11 | CERAMIC CHIP | 180PF | 5% | 50V |
| C112 | 1-163-237-11 | CERAMIC CHIP | 27PF | 5% | 50V |
| C113 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C300 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C301 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C302 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C303 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C304 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C305 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C306 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C307 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C310 | 1-163-085-00 | CERAMIC CHIP | 2PF | 0.25PF | 50V |
| C311 | 1-163-257-11 | CERAMIC CHIP | 180PF | 5% | 50V |
| C312 | 1-163-237-11 | CERAMIC CHIP | 27PF | 5% | 50V |
| C313 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C500 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C501 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C502 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C503 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C504 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C505 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C506 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C507 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C510 | 1-163-085-00 | CERAMIC CHIP | 2PF | 0.25PF | 50V |
| C511 | 1-163-257-11 | CERAMIC CHIP | 180PF | 5% | 50V |
| C512 | 1-163-237-11 | CERAMIC CHIP | 27PF | 5% | 50V |
| C513 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C700 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C701 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C702 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C703 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C704 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C705 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C707 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C708 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C709 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C710 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C711 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C712 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C713 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C714 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C715 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C716 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V |
| C717 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |
| C718 | 1-126-392-11 | ELECT CHIP | 100µF | 20% | 6.3V |

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# BK1

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | <CONNECTOR> | | | | |
| CN1 | * 1-691-406-11 | CONNECTOR, BOARD TO BOARD 7P | | | |
| CN2 | * 1-691-406-11 | CONNECTOR, BOARD TO BOARD 7P | | | |
| CN3 | * 1-691-406-11 | CONNECTOR, BOARD TO BOARD 7P | | | |
| | <DELAY LINE> | | | | |
| DL100 | 1-416-476-21 | DELAY LINE | | | |
| DL300 | 1-416-476-21 | DELAY LINE | | | |
| DL500 | 1-416-476-21 | DELAY LINE | | | |
| DL700 | 1-416-475-21 | DELAY LINE | | | |
| DL701 | 1-416-475-21 | DELAY LINE | | | |
| | <IC> | | | | |
| IC100 | 8-759-082-61 | IC TC4W53FU | | | |
| IC131 | 8-749-014-06 | IC VPJ05 | | | |
| IC300 | 8-759-082-61 | IC TC4W53FU | | | |
| IC331 | 8-749-014-06 | IC VPJ05 | | | |
| IC500 | 8-759-082-61 | IC TC4W53FU | | | |
| IC531 | 8-749-014-06 | IC VPJ05 | | | |
| IC701 | 8-759-451-53 | IC EL4094CS-TE2 | | | |
| IC702 | 8-759-271-04 | IC LT1252CS8 | | | |
| IC703 | 8-759-082-61 | IC TC4W53FU | | | |
| IC704 | 8-759-981-48 | IC TL082M | | | |
| | <TRANSISTOR> | | | | |
| Q100 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q101 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q102 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q103 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q104 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q105 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q106 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q107 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q108 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q300 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q301 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q302 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q303 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q304 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q305 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q306 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q307 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q308 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q500 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q501 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q502 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q503 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q504 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q505 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q506 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q507 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q508 | 8-729-112-65 | TRANSISTOR 2SA1462-Y33 | | | |
| Q700 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q701 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q702 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q703 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| Q704 | 8-729-107-31 | TRANSISTOR 2SC3545-T43 | | | |
| | <RESISTOR> | | | | |
| R100 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R101 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R102 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R103 | 1-216-043-91 | RES,CHIP | 560 | 5% | 1/10W |
| R104 | 1-216-631-11 | METAL CHIP | 150 | 0.50% | 1/10W |
| R105 | 1-216-631-11 | METAL CHIP | 150 | 0.50% | 1/10W |
| R106 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R107 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R108 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R109 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R110 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R111 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R112 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R113 | 1-216-655-11 | METAL CHIP | 1.5K | 0.50% | 1/10W |
| R114 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R115 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R116 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R117 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R118 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R119 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R120 | 1-216-625-11 | METAL CHIP | 82 | 0.50% | 1/10W |
| R121 | 1-216-625-11 | METAL CHIP | 82 | 0.50% | 1/10W |
| R122 | 1-216-625-11 | METAL CHIP | 82 | 0.50% | 1/10W |
| R123 | 1-216-033-00 | METAL CHIP | 220K | 5% | 1/10W |
| R124 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R126 | 1-216-049-91 | METAL CHIP | 1K | 5% | 1/10W |
| R300 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R301 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R302 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R303 | 1-216-043-91 | RES,CHIP | 560 | 5% | 1/10W |
| R304 | 1-216-631-11 | METAL CHIP | 150 | 0.50% | 1/10W |
| R305 | 1-216-631-11 | METAL CHIP | 150 | 0.50% | 1/10W |
| R306 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R307 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R308 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R309 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R310 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R311 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R312 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R313 | 1-216-655-11 | METAL CHIP | 1.5K | 0.50% | 1/10W |
| R314 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R315 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R316 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R317 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R318 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R319 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R320 | 1-216-625-11 | METAL CHIP | 82 | 0.50% | 1/10W |
| R321 | 1-216-625-11 | METAL CHIP | 82 | 0.50% | 1/10W |
| R322 | 1-216-625-11 | METAL CHIP | 82 | 0.50% | 1/10W |
| R323 | 1-216-033-00 | METAL CHIP | 220K | 5% | 1/10W |
| R324 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R326 | 1-216-049-91 | METAL CHIP | 1K | 5% | 1/10W |
| R500 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R501 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R502 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R503 | 1-216-043-91 | RES,CHIP | 560 | 5% | 1/10W |
| R504 | 1-216-631-11 | METAL CHIP | 150 | 0.50% | 1/10W |
| R505 | 1-216-631-11 | METAL CHIP | 150 | 0.50% | 1/10W |
| R506 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R507 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R508 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R509 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R510 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R511 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R512 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R513 | 1-216-655-11 | METAL CHIP | 1.5K | 0.50% | 1/10W |
| R514 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R515 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R516 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R517 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R518 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R519 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R520 | 1-216-625-11 | METAL CHIP | 82 | 0.50% | 1/10W |
| R521 | 1-216-625-11 | METAL CHIP | 82 | 0.50% | 1/10W |
| R522 | 1-216-625-11 | METAL CHIP | 82 | 0.50% | 1/10W |
| R523 | 1-216-033-00 | METAL CHIP | 220K | 5% | 1/10W |
| R524 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R526 | 1-216-049-91 | METAL CHIP | 1K | 5% | 1/10W |
| R700 | 1-216-678-11 | METAL CHIP | 13K | 0.50% | 1/10W |
| R701 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R702 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R703 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R710 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R711 | 1-216-631-11 | METAL CHIP | 150 | 0.50% | 1/10W |
| R712 | 1-216-660-11 | METAL CHIP | 2.4K | 0.50% | 1/10W |
| R713 | 1-216-295-91 | SHORT | 0 | | |
| R714 | 1-216-631-11 | METAL CHIP | 150 | 0.50% | 1/10W |
| R715 | 1-216-621-11 | METAL CHIP | 56 | 0.50% | 1/10W |
| R716 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R717 | 1-216-641-11 | METAL CHIP | 390 | 0.50% | 1/10W |
| R718 | 1-216-635-11 | METAL CHIP | 220 | 0.50% | 1/10W |
| R720 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R721 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R722 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W |
| R723 | 1-216-043-91 | RES,CHIP | 560 | 5% | 1/10W |
| R724 | 1-216-643-11 | METAL CHIP | 470 | 0.50% | 1/10W |
| R725 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R726 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R727 | 1-216-643-11 | METAL CHIP | 470 | 0.50% | 1/10W |
| R728 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R729 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R730 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R731 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R732 | 1-216-645-11 | METAL CHIP | 560 | 0.50% | 1/10W |

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| Ref.No. | Part No. | Description |
|---|---|---|
| | * A-1136-026-A | BUF COMPL (D24MODEL)<br>************************* |
| | * X-4037-157-1 | FRAME ASSY, PWB |
| | * X-4037-212-1 | SHIELD ASSY, PWB |
| | 1-526-652-21 | SOCKET, IC (DP) 8P |
| | 1-550-104-11 | HOLDER, BATTERY |
| | * 3-648-057-00 | NUT (ISO-4), U |
| | * 4-050-794-03 | INSULATOR |
| | 7-682-647-09 | SCREW +PS 3X6 |

<CAPACITOR>

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C001 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C002 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C003 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C051 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C052 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C053 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C054 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C101 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C102 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C103 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C104 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C105 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C106 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C107 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C108 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C109 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C110 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C111 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C112 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C113 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C114 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C115 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C116 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C117 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C118 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C119 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C120 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C121 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C122 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C123 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C124 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C125 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C126 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C127 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C128 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C129 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C130 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C131 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C132 | 1-163-275-11 | CERAMIC CHIP | 0.001µF | 5% | 50V |
| C133 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C134 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C135 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C136 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C137 | 1-164-222-11 | CERAMIC CHIP | 0.22µF | | 25V |
| C138 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C139 | 1-163-275-11 | CERAMIC CHIP | 0.001µF | 5% | 50V |
| C151 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C152 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C153 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C154 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C155 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C156 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C171 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C172 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C173 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C174 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C175 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C176 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C177 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C211 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C212 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C213 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C214 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C215 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C216 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C217 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C231 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C301 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C302 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C303 | 1-163-243-11 | CERAMIC CHIP | 47PF | 5% | 50V |
| C304 | 1-163-809-11 | CERAMIC CHIP | 0.047µF | 10% | 25V |
| C305 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C321 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C322 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C401 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C402 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C403 | 1-163-243-11 | CERAMIC CHIP | 47PF | 5% | 50V |

# BUF

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C404 | 1-163-809-11 | CERAMIC CHIP | 0.047µF | 10% | 25V |
| C405 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C421 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C422 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C501 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C502 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C503 | 1-163-243-11 | CERAMIC CHIP | 47PF | 5% | 50V |
| C504 | 1-163-809-11 | CERAMIC CHIP | 0.047µF | 10% | 25V |
| C505 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C521 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C522 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C801 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C802 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C803 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C804 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C805 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C851 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C852 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C853 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C854 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C855 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C901 | 1-126-168-11 | ELECT | 1000µF | 20% | 6.3V |
| C902 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C905 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C906 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C907 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C908 | 1-163-038-91 | CERAMIC CHIP | 0.1µF | | 25V |
| C909 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| | <CONNECTOR> | | | | |
| CN001 | 1-774-523-11 | PIN, CONNECTOR (PC BOARD) 64P | | | |
| CN002 | 1-774-523-11 | PIN, CONNECTOR (PC BOARD) 64P | | | |
| CN003 | ∗1-564-525-11 | PLUG, CONNECTOR 10P | | | |
| CN004 | ∗1-564-525-11 | PLUG, CONNECTOR 10P | | | |
| | <DIODE> | | | | |
| D101 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D102 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D103 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D901 | 8-719-158-19 | DIODE RD6.2SB | | | |
| | <FILTER> | | | | |
| FL001 | 1-239-183-11 | FILTER, EMI | | | |
| FL002 | 1-239-183-11 | FILTER, EMI | | | |
| FL003 | 1-239-183-11 | FILTER, EMI | | | |
| FL801 | 1-236-071-11 | ENCAPSULATED COMPONENT | | | |
| FL851 | 1-236-071-11 | ENCAPSULATED COMPONENT | | | |
| FL901 | 1-236-071-11 | ENCAPSULATED COMPONENT | | | |
| FL902 | 1-236-071-11 | ENCAPSULATED COMPONENT | | | |
| FL903 | 1-239-183-11 | FILTER, EMI | | | |
| FL904 | 1-239-493-11 | FILTER, EMI | | | |
| | <IC> | | | | |
| IC001 | 8-759-186-30 | IC TC74VHC14F | | | |
| IC002 | 8-759-186-44 | IC TC74VHC125F | | | |
| IC003 | 8-759-973-72 | IC SN74LS07NS | | | |
| IC051 | 8-759-491-37 | IC TC74VHCT245AF(EL) | | | |
| IC052 | 8-759-491-37 | IC TC74VHCT245AF(EL) | | | |
| IC104 | 8-759-295-09 | IC TLC2932IPW | | | |
| IC105 | 8-759-497-04 | IC LC361000AMLL-70-TLA | | | |
| IC106 | 8-759-346-07 | IC MM1026BFB | | | |
| IC107 | 8-759-186-30 | IC TC74VHC14F | | | |
| IC108 | 8-759-081-42 | IC TC74VHC00F | | | |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| IC109 | 8-759-991-19 | IC PST529CMT | | | |
| IC110 | 8-759-081-46 | IC TC74VHCU04F | | | |
| IC111 | 8-759-491-32 | IC TC74VHCT04AF(EL) | | | |
| IC112 | 8-759-491-32 | IC TC74VHCT04AF(EL) | | | |
| IC113 | 8-759-011-65 | IC MC74HC4053F | | | |
| IC211 | 8-752-338-46 | IC CXD1178Q | | | |
| IC231 | 8-759-011-65 | IC MC74HC4053F | | | |
| IC301 | 8-759-981-48 | IC TL082M | | | |
| IC302 | 8-759-011-65 | IC MC74HC4053F | | | |
| IC401 | 8-759-981-48 | IC TL082M | | | |
| IC501 | 8-759-981-48 | IC TL082M | | | |
| IC801 | 8-759-460-74 | IC BA05FP-E2 | | | |
| IC851 | 8-759-539-89 | IC LM2990SX-5.0 | | | |
| IC901 | 8-759-546-25 | IC MB89613R-560 | | | |
| IC902 | 8-759-186-44 | IC TC74VHC125F | | | |
| IC903 | 8-759-156-54 | IC X25040SI | | | |
| | <COIL> | | | | |
| L102 | 1-410-470-11 | INDUCTOR | 10µH | | |
| L103 | 1-410-470-11 | INDUCTOR | 10µH | | |
| L211 | 1-410-470-11 | INDUCTOR | 10µH | | |
| L301 | 1-408-613-31 | INDUCTOR | 68µH | | |
| L302 | 1-410-476-11 | INDUCTOR | 33µH | | |
| L401 | 1-408-613-31 | INDUCTOR | 68µH | | |
| L402 | 1-410-476-11 | INDUCTOR | 33µH | | |
| L501 | 1-408-613-31 | INDUCTOR | 68µH | | |
| L502 | 1-410-476-11 | INDUCTOR | 33µH | | |
| L901 | 1-412-533-21 | INDUCTOR | 47µH | | |
| | <TRANSISTOR> | | | | |
| Q001 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| Q002 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| Q101 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| Q102 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | | | |
| Q103 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q104 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | | | |
| Q105 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q106 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| Q301 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q302 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q303 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q304 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q401 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q402 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q403 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q404 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q501 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q502 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | | | |
| Q503 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q504 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | | | |
| Q901 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| | <RESISTOR> | | | | |
| R001 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R002 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R003 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R005 | 1-216-077-91 | RES,CHIP | 15k | 5% | 1/10W |
| R006 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R007 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R008 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R009 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R010 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R011 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R012 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R013 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R016 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R017 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R018 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R019 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R020 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R021 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R051 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R052 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R053 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R054 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R055 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R056 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R057 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R058 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R061 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R062 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R063 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R064 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R065 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R066 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R067 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R068 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R071 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R072 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R073 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R074 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R075 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R076 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R077 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R078 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R081 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R082 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R083 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R084 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R085 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R086 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R087 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R088 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R091 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R092 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R093 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R094 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R095 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R096 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R097 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R098 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R101 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R102 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R103 | 1-216-067-00 | RES,CHIP | 5.6K | 5% | 1/10W |
| R104 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R105 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W |
| R106 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R107 | 1-216-001-00 | RES,CHIP | 10 | 5% | 1/10W |
| R108 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R109 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R110 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R111 | 1-216-079-00 | RES,CHIP | 18K | 5% | 1/10W |
| R112 | 1-216-133-00 | RES,CHIP | 3.3M | 5% | 1/10W |
| R113 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R114 | 1-216-663-11 | METAL CHIP | 3.3K | 0.50% | 1/10W |
| R115 | 1-216-663-11 | METAL CHIP | 3.3K | 0.50% | 1/10W |
| R116 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R117 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R118 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R119 | 1-216-001-00 | RES,CHIP | 10 | 5% | 1/10W |
| R120 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R121 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R122 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R123 | 1-216-001-00 | RES,CHIP | 10 | 5% | 1/10W |
| R125 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R126 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R127 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R128 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R132 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R151 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R152 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R153 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R154 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R155 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R156 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R157 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R158 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R159 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R160 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R171 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R172 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R173 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R174 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R175 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R176 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R177 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R211 | 1-216-663-11 | METAL CHIP | 3.3K | 0.50% | 1/10W |
| R212 | 1-216-655-11 | METAL CHIP | 1.5K | 0.50% | 1/10W |
| R213 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R214 | 1-216-634-11 | METAL CHIP | 200 | 0.50% | 1/10W |
| R215 | 1-216-634-11 | METAL CHIP | 200 | 0.50% | 1/10W |
| R216 | 1-216-634-11 | METAL CHIP | 200 | 0.50% | 1/10W |
| R231 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R232 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R301 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R302 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R303 | 1-216-667-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R304 | 1-216-645-11 | METAL CHIP | 560 | 0.5% | 1/10W |
| R305 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R306 | 1-216-669-11 | METAL CHIP | 5.6K | 0.5% | 1/10W |
| R307 | 1-216-051-00 | RES,CHIP | 1.2K | 5% | 1/10W |
| R308 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R309 | 1-216-657-11 | METAL CHIP | 1.8K | 0.5% | 1/10W |
| R310 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R311 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R312 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R313 | 1-216-689-11 | METAL CHIP | 39K | 0.50% | 1/10W |
| R314 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R315 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R401 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R402 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R403 | 1-216-667-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R404 | 1-216-645-11 | METAL CHIP | 560 | 0.5% | 1/10W |
| R405 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R406 | 1-216-669-11 | METAL CHIP | 5.6K | 0.5% | 1/10W |
| R407 | 1-216-051-00 | RES,CHIP | 1.2K | 5% | 1/10W |
| R408 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R409 | 1-216-657-11 | METAL CHIP | 1.8K | 0.5% | 1/10W |
| R410 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R411 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R412 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R413 | 1-216-689-11 | METAL CHIP | 39K | 0.50% | 1/10W |

# BUF C

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R414 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R415 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R501 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R502 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R503 | 1-216-667-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R504 | 1-216-645-11 | METAL CHIP | 560 | 0.5% | 1/10W |
| R505 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R506 | 1-216-669-11 | METAL CHIP | 5.6K | 0.5% | 1/10W |
| R507 | 1-216-051-00 | RES,CHIP | 1.2K | 5% | 1/10W |
| R508 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R509 | 1-216-657-11 | METAL CHIP | 1.8K | 0.5% | 1/10W |
| R510 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R511 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R512 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R513 | 1-216-689-11 | METAL CHIP | 39K | 0.50% | 1/10W |
| R514 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R515 | 1-216-663-11 | METAL CHIP | 3.3K | 0.5% | 1/10W |
| R901 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R902 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R903 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R904 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R905 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R906 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R907 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R908 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R909 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R910 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R911 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R912 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R913 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R914 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R915 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R916 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R917 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R918 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R919 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R920 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |

<RESISTOR BLOCK>

| | | |
|---|---|---|
| RB101 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB102 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB103 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB104 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB109 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB110 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB111 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB112 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB113 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB114 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB115 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB116 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB117 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB118 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB119 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |
| RB120 | 1-239-409-11 | RES, CHIP NETWORK 47 (3216) |

<TEST PIN>

| | | |
|---|---|---|
| TP901 | ∗ 1-537-864-11 | PIN, POST |
| TP902 | ∗ 1-537-864-11 | PIN, POST |
| TP903 | ∗ 1-537-864-11 | PIN, POST |

<CRYSTAL>

| | | |
|---|---|---|
| X101 | 1-579-993-21 | VIBRATOR, CERAMIC (20MHz) |
| X901 | 1-578-689-21 | VIBRATOR (8MHz) |

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∗ A-1331-954-A C MOUNT (D20)
∗ A-1331-958-A C MOUNT (D24)
***************

<CAPACITOR>

| | | | | | |
|---|---|---|---|---|---|
| C4 | 1-162-114-00 | CERAMIC | 0.0047µF | | 2KV |
| C5 | 1-162-114-00 | CERAMIC | 0.0047µF | | 2KV |
| C6 | 1-162-114-00 | CERAMIC | 0.0047µF | | 2KV<br>(D20) |
| C7 | 1-124-907-11 | ELECT | 10µF | 20% | 50V<br>(D20) |
| C8 | 1-124-907-11 | ELECT | 10µF | 20% | 50V<br>(D20) |

<CONNECTOR>

| | | |
|---|---|---|
| CN1 | ∗ 1-508-786-00 | PIN, CONNECTOR (5MM PITCH) 2P |
| CN3 | 1-766-241-11 | PIN, CONNECTOR (PC BOARD) 3P |
| CN4 | ∗ 1-564-507-11 | PLUG, CONNECTOR 4P |
| CN5 | ∗ 1-564-507-11 | PLUG, CONNECTOR 4P |
| CN6 | ∗ 1-564-507-11 | PLUG, CONNECTOR 4P |
| CN7 | ∗ 1-564-506-11 | PLUG, CONNECTOR 3P |
| CN8 | ∗ 1-564-507-11 | PLUG, CONNECTOR 4P |
| CN9 | 1-695-915-11 | TAB (CONTACT) |

<DIODE>

| | | |
|---|---|---|
| D1 | 8-719-979-58 | DIODE EGP10D |
| D2 | 8-719-110-63 | DIODE RD24ESB3 (D20) |

<JACK>

| | | |
|---|---|---|
| J1 | ⚠ 1-251-116-11 | SOCKET, CRT (D20) |
| J1 | ⚠ 1-251-640-11 | SOCKET, CRT (D24) |

<COIL>

| | | | |
|---|---|---|---|
| L1 | 1-408-595-31 | INDUCTOR | 2.2µH |
| L2 | 1-408-595-31 | INDUCTOR | 2.2µH |
| L3 | 1-408-595-31 | INDUCTOR | 2.2µH |

<TRANSISTOR>

| | | |
|---|---|---|
| Q1 | 8-729-140-97 | TRANSISTOR 2SB734-34 (D20) |

<RESISTOR>

| | | | | | |
|---|---|---|---|---|---|
| R1 | 1-240-931-91 | REGISTER | 0 | | |
| R2 | 1-240-931-91 | REGISTER | 0 | | |
| R3 | 1-240-931-91 | REGISTER | 0 | | |
| R4 | 1-242-802-91 | REGISTER | 0 | | |
| R5 | 1-242-802-91 | REGISTER | 0 | | |
| R6 | 1-242-802-91 | REGISTER | 0 | | |
| R7 | 1-219-696-11 | METAL OXIDE | 30M | 5% | 1W<br>(D20) |
| R8 | 1-219-752-11 | CARBON | 100K | 5% | 1/2W |
| R9 | 1-219-759-11 | CARBON | 1M | 5% | 1/2W |
| R16 | 1-219-753-11 | CARBON | 220K | 5% | 1/2W<br>(D20) |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R16 | 1-220-825-11 | CARBON | 330K | 5% | 1/2W (D24) |
| R17 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4 (D20) |
| R17 | 1-216-375-00 | METAL OXIDE | 3.3 | 5% | 2W F (D24) |
| R18 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W (D20) |
| R18 | 1-216-375-00 | METAL OXIDE | 3.3 | 5% | 2W F (D24) |

<VARIABLE RESISTOR>

| | | | | | |
|---|---|---|---|---|---|
| RV1 | ⚠1-223-410-11 | RES, ADJ, METAL FILM 110M (D20) | | | |

<SPARK GAP>

| | | | | | |
|---|---|---|---|---|---|
| SG1 | 1-519-422-11 | GAP, SPARK | | | |
| SG2 | 1-519-421-11 | GAP, DISCHARGE | | | |
| SG3 | 1-519-421-11 | GAP, DISCHARGE | | | |
| SG4 | 1-519-421-11 | GAP, DISCHARGE | | | |
| SG5 | 1-519-421-11 | GAP, DISCHARGE | | | |
| SG6 | 1-519-421-11 | GAP, DISCHARGE | | | |
| SG7 | 1-519-421-11 | GAP, DISCHARGE | | | |
| SG8 | 1-519-422-11 | GAP, SPARK (D20) | | | |

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* A-1343-686-A D MOUNT

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<CAPACITOR>

| | | | | | |
|---|---|---|---|---|---|
| C101 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V |
| C102 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C103 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | | 50V |
| C104 | 1-107-682-11 | CERAMIC CHIP | 1µF | 10% | 16V |
| C105 | 1-163-005-11 | CERAMIC CHIP | 470PF | 10% | 50V |
| C106 | 1-107-823-11 | CERAMIC CHIP | 0.47µF | 10% | 16V |
| C107 | 1-107-682-11 | CERAMIC CHIP | 1µF | 10% | 16V |
| C108 | 1-163-005-11 | CERAMIC CHIP | 470PF | 10% | 50V |
| C109 | 1-107-682-11 | CERAMIC CHIP | 1µF | 10% | 16V |
| C110 | 1-126-397-11 | ELECT CHIP | 33µF | 20% | 25V |
| C111 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C112 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C113 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C114 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C115 | 1-107-823-11 | CERAMIC CHIP | 0.47µF | 10% | 16V |
| C116 | 1-126-404-11 | ELECT CHIP | 4.7µF | 20% | 50V |
| C117 | 1-107-682-11 | CERAMIC CHIP | 1µF | 10% | 16V |
| C118 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C119 | 1-126-400-11 | ELECT CHIP | 22µF | 20% | 35V |
| C121 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C122 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C125 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C126 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C129 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C130 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C131 | 1-107-823-11 | CERAMIC CHIP | 0.47µF | 10% | 16V |
| C132 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C151 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C152 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C153 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C154 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C155 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V |
| C156 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C201 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C202 | 1-126-396-11 | ELECT CHIP | 47µF | 20% | 16V |
| C203 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C204 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C205 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C206 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C207 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C210 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C211 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C214 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C215 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C216 | 1-163-809-11 | CERAMIC CHIP | 0.047µF | 10% | 25V |
| C217 | 1-163-222-11 | CERAMIC CHIP | 5PF | 0.25PF | 50V |
| C218 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C219 | 1-163-222-11 | CERAMIC CHIP | 5PF | 0.25PF | 50V |
| C220 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C221 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C222 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C223 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |

<CONNECTOR>

| | | | | | |
|---|---|---|---|---|---|
| CN101 | * 1-774-246-11 | CONNECTOR, BOARD TO BOARD 10P | | | |
| CN102 | * 1-774-246-11 | CONNECTOR, BOARD TO BOARD 10P | | | |

<DIODE>

| | | | | | |
|---|---|---|---|---|---|
| D102 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |

<IC>

| | | | | | |
|---|---|---|---|---|---|
| IC101 | 8-759-327-51 | IC PA0053B | | | |
| IC102 | 8-759-327-51 | IC PA0053B | | | |
| IC103 | 8-759-981-48 | IC TL082M | | | |
| IC104 | 8-759-981-48 | IC TL082M | | | |
| IC105 | 8-759-988-13 | IC LM393PS | | | |
| IC201 | 8-759-929-26 | IC TL431CPS | | | |
| IC202 | 8-759-326-65 | IC MP7670AS-TE2 | | | |
| IC203 | 8-759-981-48 | IC TL082M | | | |
| IC204 | 8-759-981-48 | IC TL082M | | | |
| IC205 | 8-752-068-37 | IC CXA1726AM | | | |
| IC206 | 8-759-326-65 | IC MP7670AS-TE2 | | | |
| IC207 | 8-759-981-48 | IC TL082M | | | |

<RESISTOR>

| | | | | | |
|---|---|---|---|---|---|
| R101 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R103 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R105 | 1-216-670-11 | METAL CHIP | 6.2K | 0.50% | 1/10W |
| R106 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R109 | 1-216-670-11 | METAL CHIP | 6.2K | 0.50% | 1/10W |
| R110 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R111 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R112 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R113 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R114 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R115 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R116 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R117 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R118 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R119 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R120 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R121 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R122 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R123 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R124 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R125 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R126 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R151 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R152 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R153 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R154 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R155 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R156 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R157 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R158 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R159 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R160 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R161 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R162 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R165 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R166 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R167 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R169 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R170 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R201 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W |
| R202 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W |
| R203 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R204 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R205 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R206 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R207 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R208 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R209 | 1-216-663-11 | METAL CHIP | 3.3K | 0.50% | 1/10W |
| R210 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R211 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R212 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R213 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R214 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R215 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R216 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R217 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R218 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R219 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R220 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R221 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R222 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R223 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R224 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R225 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R226 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R227 | 1-216-668-11 | METAL CHIP | 5.1K | 0.50% | 1/10W |
| R228 | 1-216-295-91 | SHORT | 0 | | |
| R229 | 1-216-295-91 | SHORT | 0 | | |
| R230 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R231 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R232 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R233 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R234 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R235 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R236 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R242 | 1-216-295-91 | SHORT | 0 | | |
| R244 | 1-216-295-91 | SHORT | 0 | | |

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| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | * A-1346-842-A | E COMPL (D20) | | | |
| | * A-1346-849-A | E COMPL (D24) | | | |
| | | *************** | | | |
| | * X-4033-108-3 | HEAT SINK ASSY, DEF | | | |
| | 3-899-248-01 | SCREW (M3X6) | | | |
| | * 3-648-057-00 | NUT (ISO-4), U | | | |
| | * 4-030-359-01 | HEAT SINK, H. PIN | | | |
| | * 4-050-794-03 | INSULATOR | | | |
| | * 4-053-101-02 | SPACER, DY CONNECTOR | | | |
| | * 4-072-202-01 | SPACER | | | |
| | * 4-381-905-01 | SPRING (D) | | | |
| | 4-381-907-01 | INSULATOR (A) | | | |
| | 4-382-854-01 | SCREW (M3X8), P, SW (+) | | | |
| | 4-382-854-11 | SCREW (M3X10), P, SW (+) | | | |
| | 4-393-406-01 | SHEET (R), RADIATION | | | |
| | 7-682-566-04 | SCREW +B 4X20 | | | |
| | 7-682-647-09 | SCREW +PS 3X6 | | | |
| | <CAPACITOR> | | | | |
| C1 | 1-130-495-00 | MYLAR | 0.1µF | 5% | 50V |
| C2 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C3 | 1-102-030-00 | CERAMIC | 330PF | 10% | 500V |
| C4 | 1-107-943-11 | ELECT | 10µF | 20% | 160V |
| C5 | 1-125-787-91 | CERAMIC | 680PF | 10% | 2KV |
| C6 | 1-131-879-11 | CERAMIC | 2700PF | 3% | 1.8KV<br>(D20) |
| C6 | 1-131-856-11 | FILM | 2200PF | 3% | 1.8KV<br>(D24) |
| C7 | 1-125-787-91 | CERAMIC | 680PF | 10% | 2KV |
| C8 | 1-125-787-91 | CERAMIC | 680PF | 10% | 2KV |
| C9 | 1-137-350-11 | FILM | 0.015µF | 5% | 100V |
| C10 | 1-117-661-71 | FILM | 0.15µF | 5% | 250V |
| C11 | 1-117-664-11 | FILM | 0.27µF | 5% | 250V<br>(D20) |
| C11 | 1-117-661-71 | FILM | 0.15µF | 5% | 250V<br>(D24) |
| C12 | 1-117-661-71 | FILM | 0.15µF | 5% | 250V |
| C13 | 1-117-675-11 | FILM | 2.2µF | 5% | 250V<br>(D24) |
| C14 | 1-115-522-11 | FILM | 1µF | 5% | 250V<br>(D20) |
| C14 | 1-115-521-11 | FILM | 0.82µF | 5% | 250V<br>(D24) |
| C15 | 1-115-521-11 | FILM | 0.82µF | 5% | 250V<br>(D20) |
| C15 | 1-117-667-71 | FILM | 0.47µF | 5% | 250V<br>(D24) |
| C16 | 1-117-678-11 | FILM | 3µF | 5% | 250V<br>(D20) |
| C16 | 1-109-844-11 | FILM | 0.68µF | 5% | 250V<br>(D24) |
| C17 | 1-117-678-11 | FILM | 3µF | 5% | 250V |
| C18 | 1-162-318-11 | CERAMIC | 0.001µF | 10% | 500V<br>(D24) |
| C19 | 1-163-017-00 | CERAMIC CHIP | 0.0047µF | 10% | 50V |
| C21 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C22 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C23 | 1-125-787-91 | CERAMIC | 680PF | 10% | 2KV |
| C24 | 1-115-522-11 | FILM | 1µF | 5% | 250V |
| C25 | 1-125-924-11 | FILM | 3900PF | 3% | 1.8KV |
| C26 | 1-131-878-11 | FILM | 3300PF | 3% | 1.8kv |
| C27 | 1-117-407-11 | ELECT | 47µF | 20% | 160V |
| C28 | 1-104-709-11 | ELECT | 4.7µF | 0 | 160V |
| C29 | 1-162-318-11 | CERAMIC | 0.001µF | 10% | 500V<br>(D24) |
| C50 | 1-107-902-11 | ELECT | 1µF | 20% | 50V |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C51 | 1-164-346-11 | CERAMIC CHIP | 1µF | | 16V |
| C52 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C53 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C54 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C101 | 1-128-528-11 | ELECT | 470µF | 20% | 16V |
| C102 | 1-128-528-11 | ELECT | 470µF | 20% | 16V |
| C103 | 1-163-011-11 | CERAMIC CHIP | 0.0015µF | 10% | 50V |
| C104 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C105 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C201 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C203 | 1-128-526-11 | ELECT | 100µF | 20% | 25V |
| C204 | 1-128-526-11 | ELECT | 100µF | 20% | 25V |
| C207 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C208 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V |
| C209 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V |
| C401 | 1-136-165-00 | FILM | 0.1µF | 5% | 50V |
| C402 | 1-137-370-11 | FILM | 0.01µF | 5% | 50V |
| C403 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C405 | 1-128-526-11 | ELECT | 100µF | 20% | 25V |
| C410 | 1-128-526-11 | ELECT | 100µF | 20% | 25V |
| C501 | 1-107-364-11 | MYLAR | 0.01µF | 10% | 200V |
| C502 | 1-125-827-91 | CERAMIC CHIP | 1µF | 10% | 25V |
| C503 | 1-107-903-11 | ELECT | 2.2µF | 20% | 50V |
| C507 | 1-107-906-11 | ELECT | 10µF | 20% | 50V |
| C550 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C551 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C552 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C553 | 1-107-902-11 | ELECT | 1µF | 20% | 50V |
| C601 | 1-163-017-00 | CERAMIC CHIP | 0.0047µF | 10% | 50V |
| C602 | 1-128-526-11 | ELECT | 100µF | 20% | 25V |
| C604 | 1-128-526-11 | ELECT | 100µF | 20% | 25V |
| C606 | 1-117-663-21 | FILM | 0.22µF | 5% | 250V |
| C607 | 1-107-910-11 | ELECT | 100µF | 20% | 50V |
| C609 | 1-163-037-11 | CERAMIC CHIP | 0.022µF | 10% | 50V |
| C701 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C702 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C703 | 1-163-017-00 | CERAMIC CHIP | 0.0047µF | 10% | 50V |
| C704 | 1-163-037-11 | CERAMIC CHIP | 0.022µF | 10% | 50V |
| C705 | 1-163-275-11 | CERAMIC CHIP | 0.001µF | 5% | 50V |
| C706 | 1-163-121-00 | CERAMIC CHIP | 150PF | 5% | 50V |
| C707 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C708 | 1-163-037-11 | CERAMIC CHIP | 0.022µF | 10% | 50V |
| C709 | 1-107-884-11 | ELECT | 1000µF | 20% | 16V |
| C714 | 1-128-526-11 | ELECT | 100µF | 20% | 25V |
| C715 | 1-110-641-51 | ELECT | 33µF | 20% | 200V |
| C716 | 1-107-364-11 | MYLAR | 0.01µF | 10% | 200V |
| C718 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C801 | 1-136-165-00 | FILM | 0.1µF | 5% | 50V |
| C802 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C803 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C804 | 1-136-165-00 | FILM | 0.1µF | 5% | 50V |
| C805 | 1-137-370-11 | FILM | 0.01µF | 5% | 50V |
| C807 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C808 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V<br>(D20) |
| C901 | 1-128-527-11 | ELECT | 330µF | 20% | 25V |
| C902 | 1-128-528-11 | ELECT | 470µF | 20% | 16V |
| C903 | 1-128-527-11 | ELECT | 330µF | 20% | 25V |
| C904 | 1-128-528-11 | ELECT | 470µF | 20% | 16V |
| C905 | 1-104-652-11 | ELECT | 470µF | 20% | 10V |
| C906 | 1-104-652-11 | ELECT | 470µF | 20% | 10V |
| C907 | 1-104-652-11 | ELECT | 470µF | 20% | 10V |
| C908 | 1-104-652-11 | ELECT | 470µF | 20% | 10V |
| C909 | 1-107-492-11 | ELECT | 47µF | 20% | 160V |
| C910 | 1-126-168-11 | ELECT | 1000µF | 20% | 6.3V |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C912 | 1-107-889-11 | ELECT | 220µF | 20% | 25V |
| C913 | 1-107-889-11 | ELECT | 220µF | 20% | 25V |
| C1007 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1012 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C1120 | 1-125-838-91 | CERAMIC CHIP | 2.2µF | 10% | 6.3V |
| C2000 | 1-107-682-11 | CERAMIC CHIP | 1µF | 10% | 16V |
| C2001 | 1-163-037-11 | CERAMIC CHIP | 0.022µF | 10% | 50V |
| C2002 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2003 | 1-107-909-11 | ELECT | 47µF | 20% | 16V |
| C2004 | 1-163-001-11 | CERAMIC CHIP | 220PF | 10% | 50V |
| C2005 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V |
| C2006 | 1-104-760-11 | CERAMIC CHIP | 0.047µF | 10% | 50V |
| C2007 | 1-163-275-11 | CERAMIC CHIP | 0.001µF | 5% | 50V |
| C2008 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C2009 | 1-107-906-11 | ELECT | 10µF | 20% | 50V |
| C2010 | 1-127-573-11 | CERAMIC CHIP | 1µF | 10% | 16V |
| C2011 | 1-107-682-11 | CERAMIC CHIP | 1µF | 10% | 16V |
| C2012 | 1-163-275-11 | CERAMIC CHIP | 0.001µF | 5% | 50V |
| C2013 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2014 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C2015 | 1-163-275-11 | CERAMIC CHIP | 0.001µF | 5% | 50V |
| C2016 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C2017 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2018 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | 10% | 50V<br>(D20) |
| C2019 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | 10% | 50V<br>(D20) |
| C2019 | 1-164-182-11 | CERAMIC CHIP | 0.0033µF | 10% | 50V<br>(D24) |
| C2020 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V<br>(D20) |
| C2021 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V<br>(D20) |
| C2022 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2023 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2024 | 1-107-906-11 | ELECT | 10µF | 20% | 50V |
| C2025 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2026 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D20) |
| C2027 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2028 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2029 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2030 | 1-107-909-11 | ELECT | 47µF | 20% | 16V |
| C2031 | 1-107-823-11 | CERAMIC CHIP | 0.47µF | 10% | 16V |
| C2032 | 1-164-489-11 | CERAMIC CHIP | 0.22µF | 10% | 16V |
| C2033 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2034 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C2035 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C2036 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2037 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C2038 | 1-107-905-11 | ELECT | 4.7µF | 20% | 50V |
| C2039 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V |
| C2040 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2041 | 1-163-017-00 | CERAMIC CHIP | 0.0047µF | 10% | 50V<br>(D24) |
| C2301 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2302 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2303 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2305 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2306 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2307 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2308 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2309 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2311 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2312 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2313 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C2314 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2315 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2316 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2317 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2318 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C2319 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2320 | 1-165-319-11 | CERAMIC CHIP | 0.1µF | | 50V |
| C2321 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2322 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2323 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2324 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C2325 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C2326 | 1-104-551-11 | FILM CHIP | 0.01µF | 5% | 16V |
| C7001 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C7002 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C7003 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C7004 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C7005 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C7006 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C7007 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C7008 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C7009 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C7010 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C7011 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C7012 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C7013 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |

<CONNECTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| CN1 | * 1-580-798-11 | CONNECTOR PIN (DY) 6P | |
| CN2 | 1-695-915-11 | TAB (CONTACT) (D24) | |
| CN501 | * 1-793-709-11 | CONNECTOR, BORAD TO BOARD 10P | |
| CN503 | * 1-691-000-11 | CONNECTOR, BOARD TO BOARD 3P | |
| CN1001 | 1-774-523-11 | PIN, CONNECTOR (PC BOARD) 64P | |
| CN1002 | 1-774-523-11 | PIN, CONNECTOR (PC BOARD) 64P | |
| CN2001 | * 1-793-709-11 | CONNECTOR, BORAD TO BOARD 10P | |
| CN2002 | * 1-793-709-11 | CONNECTOR, BORAD TO BOARD 10P | |

<DIODE>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| D1 | 8-719-971-20 | DIODE ERC38-06 | |
| D2 | 8-719-300-76 | DIODE RH-1A | |
| D3 | 8-719-053-57 | DIODE 5VUZ52 | |
| D4 | 8-719-073-01 | DIODE MA111-(K8).S0 (D24) | |
| D5 | 8-719-073-01 | DIODE MA111-(K8).S0 (D24) | |
| D6 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D7 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D8 | 8-719-073-01 | DIODE MA111-(K8).S0 (D24) | |
| D9 | 8-719-073-01 | DIODE MA111-(K8).S0 (D24) | |
| D10 | 8-719-073-01 | DIODE MA111-(K8).S0 (D24) | |
| D11 | 8-719-073-01 | DIODE MA111-(K8).S0 (D24) | |
| D12 | 8-719-073-01 | DIODE MA111-(K8).S0 (D24) | |
| D13 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D14 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D15 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D16 | 8-719-073-01 | DIODE MA111-(K8).S0 (D24) | |
| D17 | 8-719-908-03 | DIODE GP08D | |
| D18 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D19 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D20 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D21 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D22 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D23 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D24 | 8-719-063-74 | DIODE D1NL2OU-TR2 | |
| D25 | 8-719-063-74 | DIODE D1NL2OU-TR2 | |
| D50 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D101 | 8-719-971-20 | DIODE ERC38-06 | |
| D102 | 8-719-971-20 | DIODE ERC38-06 | |
| D103 | 8-749-036-67 | DIODE RD2.4SB-T1 | |
| D201 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D202 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D401 | 8-719-911-19 | DIODE 1SS119-25 | |
| D402 | 8-719-911-19 | DIODE 1SS119-25 | |
| D501 | 8-719-901-83 | DIODE 1SS83 | |
| D502 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D503 | 8-719-037-22 | DIODE RD12SB-T1 | |
| D550 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D601 | 8-719-901-95 | DIODE V19CSS | |
| D602 | 8-719-033-53 | DIODE RD6.8SB2-T1 | |
| D603 | 8-719-908-03 | DIODE GP08D | |
| D701 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D702 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D703 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D704 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D705 | 8-719-158-35 | DIODE RD9.1SB | |
| D706 | 8-719-500-42 | DIODE D8LCA20R | |
| D707 | 8-719-055-30 | DIODE D1FS4A-TA | |
| D708 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D751 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D752 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D753 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D754 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D755 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D756 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D1206 | 8-719-510-02 | DIODE D1NS4 (D24) | |
| D2000 | 8-719-073-01 | DIODE MA111-(K8).S0 | |
| D7001 | 8-719-158-15 | DIODE RD5.6SB | |
| D7002 | 8-719-073-01 | DIODE MA111-(K8).S0 | |

<FERRITE BEAD>

| Ref.No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| FB701 | 1-410-397-21 | FERRITE | 1.1µH | |
| FB702 | 1-410-397-21 | FERRITE | 1.1µH | |

<FILTER>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| FL1002 | 1-239-183-11 | FILTER, EMI | |
| FL1006 | 1-236-164-11 | ENCAPSULATED COMPONENT | |
| FL1007 | 1-236-164-11 | ENCAPSULATED COMPONENT | |

<IC>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| IC50 | 8-759-988-13 | IC LM393PS | |
| IC101 | 8-759-100-96 | IC µPC4558G2 | |
| IC102 | 8-759-803-42 | IC LA6500-FA | |
| IC401 | 8-759-803-42 | IC LA6500-FA | |
| IC550 | 8-759-100-96 | IC µPC4558G2 | |
| IC601 | 8-759-192-71 | IC STV9379 | |
| IC701 | 8-759-981-48 | IC TL082M | |
| IC702 | 8-759-988-13 | IC LM393PS | |
| IC801 | 8-759-822-38 | IC LA6510 | |
| IC901 | 8-759-929-65 | IC LM7912CT | |
| IC902 | 8-759-701-79 | IC NJM7812FA | |
| IC903 | 8-759-460-74 | IC BA05FP-E2 | |
| IC904 | 8-759-539-89 | IC LM2990SX-5.0 | |
| IC905 | 8-759-460-81 | IC BA12FP-E2 | |
| IC1002 | 8-759-008-48 | IC MC74HC86F | |
| IC1005 | 8-759-242-68 | IC TC7W32F | |
| IC2001 | 8-759-593-29 | IC TDA9106 | |
| IC2002 | 8-759-038-15 | IC MC74HC4538AF | |

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| IC2003 | 8-759-981-48 | IC TL082M (D20) | |
| IC2004 | 8-759-038-15 | IC MC74HC4538AF | |
| IC2005 | 8-759-981-48 | IC TL082M | |
| IC2006 | 8-759-981-48 | IC TL082M | |
| IC2007 | 8-759-367-67 | IC MC74HC14AFEL | |
| IC2301 | 8-759-085-67 | IC LM339NS | |
| IC2302 | 8-759-038-15 | IC MC74HC4538AF | |
| IC2303 | 8-759-367-69 | IC MC74HC74AFEL | |
| IC2304 | 8-759-649-75 | IC MC74HC175AFEL | |
| IC2305 | 8-759-085-67 | IC LM339NS | |
| IC2306 | 8-759-988-13 | IC LM393PS | |
| IC7001 | 8-759-546-25 | IC MB89613R-560 | |
| IC7002 | 8-759-367-70 | IC MC74HC125AFEL | |
| IC7003 | 8-759-424-39 | IC MC74HC244AFEL | |
| IC7004 | 8-759-156-54 | IC X25040SI | |
| IC7005 | 8-759-064-36 | IC MB88346BPFV | |
| IC7006 | 8-759-156-54 | IC X25040SI | |
| IC7007 | 8-759-156-54 | IC X25040SI | |
| IC7008 | 8-759-156-54 | IC X25040SI | |
| IC7009 | 8-759-156-54 | IC X25040SI | |
| IC7010 | 8-759-156-54 | IC X25040SI | |

<CHIP CONDUCTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| JR2002 | 1-163-139-00 | CERAMIC CHIP 820PF 5% 50V | |

<COIL>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| L1 | 1-419-337-11 | COIL, HORIZONTAL LINEARITY | |
| L2 | 1-419-338-11 | COIL, HORIZONTAL LINEARITY | |
| L4 | 1-406-673-21 | INDUCTOR 2.2µH | |
| L5 | 1-406-989-21 | INDUCTOR 10µH | |
| L6 | 1-406-670-11 | INDUCTOR 680µH | |
| L7 | 1-406-673-21 | INDUCTOR 2.2µH | |
| L101 | 1-406-892-11 | INDUCTOR 4µH | |
| L701 | 1-459-433-00 | INDUCTOR 22µH | |
| L2001 | 1-406-669-11 | INDUCTOR 470µH | |
| L2002 | 1-406-669-11 | INDUCTOR 470µH | |

<TRANSISTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| Q1 | 8-729-119-80 | TRANSISTOR 2SC2688-LK | |
| Q2 | 8-729-042-55 | TRANSISTOR 2SC5143 | |
| Q3 | 8-729-034-60 | TRANSISTOR 2SK2350 (D24) | |
| Q4 | 8-729-034-60 | TRANSISTOR 2SK2350 (D24) | |
| Q5 | 8-729-034-60 | TRANSISTOR 2SK2350 | |
| Q6 | 8-729-034-60 | TRANSISTOR 2SK2350 | |
| Q7 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 (D24) | |
| Q8 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 (D24) | |
| Q9 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q10 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q11 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 (D24) | |
| Q12 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 (D24) | |
| Q13 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 (D24) | |
| Q14 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q15 | 8-729-122-13 | TRANSISTOR 2SA1221-K | |
| Q16 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | |
| Q17 | 8-729-034-60 | TRANSISTOR 2SK2350 | |
| Q18 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q19 | 8-729-034-60 | TRANSISTOR 2SK2350 | |
| Q20 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q21 | 8-729-044-21 | TRANSISTOR 2SK2655-01R-F165 | |
| Q22 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q23 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q24 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q25 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| Q26 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | |
| Q27 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |
| Q28 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |
| Q29 | 8-729-034-60 | TRANSISTOR 2SK2350 | |
| Q101 | 8-729-800-32 | TRANSISTOR 2SC2362K-G | |
| Q201 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | |
| Q202 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | |
| Q203 | 8-729-255-12 | TRANSISTOR 2SC2551-O | |
| Q204 | 8-729-017-06 | TRANSISTOR 2SC4793 | |
| Q205 | 8-729-309-36 | TRANSISTOR 2SA893A-EV | |
| Q206 | 8-729-017-06 | TRANSISTOR 2SC4793 | |
| Q207 | 8-729-140-50 | TRANSISTOR 2SC3209LK | |
| Q505 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q506 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q507 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q508 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q509 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q510 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q511 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q512 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q513 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q514 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q515 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q531 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q532 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q550 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q701 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q702 | 8-729-803-76 | TRANSISTOR 2SA1371-E | |
| Q703 | 8-729-015-28 | TRANSISTOR IRFI9630GS | |
| Q704 | 8-729-019-85 | TRANSISTOR 2SC3392-5-TB | |
| Q705 | 8-729-824-24 | TRANSISTOR 2SA1338-5-TB | |
| Q706 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q707 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q708 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q709 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q710 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q751 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q752 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q753 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q754 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q755 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q756 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q1302 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 (D20) | |
| Q1303 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 (D20) | |
| Q2000 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q2001 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | |
| Q2002 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q2003 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R (D20) | |
| Q2004 | 8-729-116-05 | TRANSISTOR 2SK160-K5 (D20) | |
| Q2005 | 8-729-027-59 | TRANSISTOR DTC144EKA | |
| Q2006 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q2007 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q2301 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q2302 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q2303 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q2304 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q2305 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q7001 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q7002 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q7003 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |

<RESISTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| R1 | 1-216-065-91 | RES,CHIP 4.7K 5% 1/10W | |
| R2 | 1-216-073-00 | RES,CHIP 10K 5% 1/10W | |
| R3 | 1-216-025-91 | RES,CHIP 100 5% 1/10W | |

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| Ref.No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R4 | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4W | |
| R5 | 1-216-462-00 | METAL OXIDE | 8.2K | 5% | 2W | F |
| R6 | 1-215-917-11 | METAL OXIDE | 1K | 5% | 3W | F |
| R7 | 1-215-917-11 | METAL OXIDE | 1K | 5% | 3W | F |
| R9 | 1-216-383-11 | METAL OXIDE | 0.33 | 5% | 3W | F (D20) |
| R9 | 1-216-385-11 | METAL OXIDE | 0.47 | 5% | 3W | F (D24) |
| R10 | 1-216-383-11 | METAL OXIDE | 0.33 | 5% | 3W | F (D20) |
| R10 | 1-216-385-11 | METAL OXIDE | 0.47 | 5% | 3W | F (D24) |
| R11 | 1-216-380-11 | METAL OXIDE | 8.2 | 5% | 2W | |
| R12 | 1-211-824-71 | FUSIBLE | 220 | 5% | 1/2W | F |
| R13 | 1-211-824-71 | FUSIBLE | 220 | 5% | 1/2W | F |
| R14 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W | (D24) |
| R15 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W | (D24) |
| R16 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W | |
| R17 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W | |
| R18 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R19 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | (D24) |
| R20 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | (D24) |
| R21 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | (D24) |
| R22 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | (D24) |
| R23 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | (D24) |
| R24 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | (D24) |
| R25 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | (D24) |
| R26 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | (D24) |
| R27 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R28 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R29 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R30 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R31 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R32 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R33 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W | |
| R34 | 1-216-051-00 | RES,CHIP | 1.2K | 5% | 1/10W | |
| R35 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W | |
| R36 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W | |
| R37 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W | |
| R38 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W | |
| R39 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R40 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W | |
| R41 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R42 | 1-214-841-55 | METAL | 110 | 1% | 1/2W | |
| R43 | 1-215-911-11 | METAL OXIDE | 100 | 5% | 3W | F |
| R44 | 1-215-907-11 | METAL OXIDE | 22 | 5% | 3W | F |
| R45 | 1-216-470-00 | METAL OXIDE | 18 | 5% | 3W | F |
| R46 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R47 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R48 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W | |
| R49 | 1-216-083-00 | RES,CHIP | 27K | 5% | 1/10W | |
| R50 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W | |
| R51 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W | |
| R52 | 1-216-687-11 | METAL CHIP | 33K | 0.50% | 1/10W | |
| R53 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W | |
| R54 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W | |
| R55 | 1-260-130-91 | CARBON | 390K | 5% | 1/2W | |

| Ref.No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R56 | 1-215-911-11 | METAL OXIDE | 100 | 5% | 3W | F |
| R60 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W | |
| R61 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W | (D24) |
| R62 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W | (D24) |
| R63 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W | |
| R64 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W | |
| R65 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W | |
| R101 | 1-216-369-00 | METAL OXIDE | 1 | 5% | 2W | F |
| R102 | 1-216-113-00 | RES,CHIP | 470K | 5% | 1/10W | |
| R103 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W | |
| R104 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W | |
| R105 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W | |
| R106 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W | |
| R107 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W | |
| R108 | 1-216-660-11 | METAL CHIP | 2.4K | 0.50% | 1/10W | |
| R109 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W | |
| R110 | 1-216-682-11 | METAL CHIP | 20K | 0.50% | 1/10W | |
| R111 | 1-216-669-11 | METAL CHIP | 5.6K | 0.50% | 1/10W | |
| R112 | 1-249-381-11 | CARBON | 1 | 5% | 1/4W | F |
| R113 | 1-249-381-11 | CARBON | 1 | 5% | 1/4W | F |
| R114 | 1-216-689-11 | METAL CHIP | 39K | 0.50% | 1/10W | |
| R201 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W | |
| R202 | 1-216-051-00 | RES,CHIP | 1.2K | 5% | 1/10W | |
| R204 | 1-216-061-00 | RES,CHIP | 3.3K | 5% | 1/10W | (D20) |
| R204 | 1-216-059-00 | RES,CHIP | 2.7K | 5% | 1/10W | (D24) |
| R205 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W | |
| R206 | 1-249-422-11 | CARBON | 2.7K | 5% | 1/4W | |
| R207 | 1-216-043-91 | RES,CHIP | 560 | 5% | 1/10W | |
| R208 | 1-216-365-00 | METAL OXIDE | 0.47 | 5% | 2W | F |
| R209 | 1-216-365-00 | METAL OXIDE | 0.47 | 5% | 2W | F |
| R210 | 1-216-385-11 | METAL OXIDE | 0.47 | 5% | 3W | F |
| R211 | 1-216-375-00 | METAL OXIDE | 3.3 | 5% | 2W | F |
| R212 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W | |
| R213 | 1-216-375-00 | METAL OXIDE | 3.3 | 5% | 2W | |
| R242 | 1-216-295-91 | SHORT | 0 | | | |
| R244 | 1-216-295-91 | SHORT | 0 | | | |
| R401 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W | F |
| R402 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | F |
| R403 | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W | F |
| R405 | 1-216-079-00 | RES,CHIP | 18K | 5% | 1/10W | |
| R406 | 1-216-085-00 | RES,CHIP | 33K | 5% | 1/10W | |
| R407 | 1-216-101-00 | RES,CHIP | 150K | 5% | 1/10W | |
| R408 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W | |
| R409 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W | |
| R422 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R501 | 1-214-913-00 | METAL | 100K | 1% | 1/2W | |
| R502 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W | (D20) |
| R502 | 1-216-672-11 | METAL CHIP | 7.5K | 0.50% | 1/10W | (D24) |
| R503 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W | (D20) |
| R503 | 1-216-663-11 | METAL CHIP | 3.3K | 0.50% | 1/10W | (D24) |
| R512 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W | |
| R513 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W | |
| R514 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W | |
| R515 | 1-216-101-00 | RES,CHIP | 150K | 5% | 1/10W | |
| R516 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W | |
| R517 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W | |
| R550 | 1-216-673-11 | METAL CHIP | 8.2K | 0.50% | 1/10W | |
| R551 | 1-216-699-91 | METAL CHIP | 100K | 0.50% | 1/10W | |
| R552 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W | |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R553 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R554 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R555 | 1-216-107-00 | RES,CHIP | 270K | 5% | 1/10W |
| R601 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R602 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R603 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W F |
| R605 | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W F |
| R606 | 1-214-799-11 | METAL | 2 | 1% | 1/2W |
| R610 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R611 | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W F |
| R612 | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W F |
| R613 | 1-214-799-11 | METAL | 2 | 1% | 1/2W |
| R614 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R615 | 1-216-077-91 | RES,CHIP | 15K | 5% | 1/10W |
| R616 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R618 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W F |
| R701 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W<br>(D20) |
| R701 | 1-216-662-11 | METAL CHIP | 3K | 0.50% | 1/10W<br>(D24) |
| R702 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R703 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R704 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W<br>(D20) |
| R704 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W<br>(D24) |
| R705 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W<br>(D20) |
| R705 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W<br>(D24) |
| R706 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W<br>(D20) |
| R706 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W<br>(D24) |
| R707 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W<br>(D20) |
| R707 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W<br>(D24) |
| R709 | 1-216-627-11 | METAL CHIP | 100 | 0.50% | 1/10W |
| R710 | 1-216-695-11 | METAL CHIP | 68K | 0.50% | 1/10W |
| R711 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R712 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R713 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R714 | 1-215-479-00 | METAL | 270K | 1% | 1/4W |
| R715 | 1-215-473-00 | METAL | 150K | 1% | 1/4W |
| R716 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R717 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R718 | 1-215-479-00 | METAL | 270K | 1% | 1/4W |
| R719 | 1-216-369-00 | METAL OXIDE | 1 | 5% | 2W F |
| R720 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R721 | 1-249-397-11 | CARBON | 22 | 5% | 1/4W F |
| R722 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R723 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R724 | 1-216-670-11 | METAL CHIP | 6.2K | 0.50% | 1/10W |
| R725 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R726 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W<br>(D20) |
| R726 | 1-216-687-11 | METAL CHIP | 33K | 0.50% | 1/10W<br>(D24) |
| R727 | 1-216-663-11 | METAL CHIP | 3.3K | 0.50% | 1/10W |
| R728 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W<br>(D20) |
| R728 | 1-216-695-11 | METAL CHIP | 68K | 0.50% | 1/10W<br>(D24) |
| R729 | 1-216-025-91 | RES,.CHIP | 100 | 5% | 1/10W |
| R751 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R752 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R753 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R802 | 1-216-663-11 | METAL CHIP | 3.3K | 0.50% | 1/10W |
| R803 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R804 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R805 | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W F |
| R806 | 1-249-433-11 | CARBON | 22K | 5% | 1/4W F |
| R807 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W F<br>(D20) |
| R807 | 1-249-397-11 | CARBON | 22 | 5% | 1/4W F<br>(D24) |
| R808 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R809 | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W F |
| R810 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W F |
| R811 | 1-249-392-11 | CARBON | 8.2 | 5% | 1/4W F |
| R812 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R813 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W |
| R814 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R815 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R816 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W |
| R817 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R818 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R819 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R1005 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R1006 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R1108 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1109 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1110 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R1114 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R1116 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R1117 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R1119 | 1-216-061-00 | RES,CHIP | 3.3K | 5% | 1/10W |
| R1124 | 1-216-079-00 | RES,CHIP | 18K | 5% | 1/10W |
| R1140 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R1158 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1159 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R1166 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R1167 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R1168 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1189 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R1202 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1204 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1206 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1209 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1211 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1212 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1252 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1259 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1260 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1261 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1262 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1266 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R1301 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W<br>(D20) |
| R1302 | 1-218-759-11 | METAL CHIP | 200K | 0.50% | 1/10W<br>(D20) |
| R2000 | 1-216-083-00 | RES,CHIP | 27K | 5% | 1/10W |
| R2001 | 1-216-001-00 | RES,CHIP | 10 | 5% | 1/10W |
| R2002 | 1-216-673-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R2003 | 1-216-647-11 | METAL CHIP | 680 | 0.50% | 1/10W |
| R2004 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R2005 | 1-216-295-91 | SHORT | 0 | | |
| R2006 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W |
| R2012 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R2013 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R2014 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R2015 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R2017 | 1-216-655-11 | METAL CHIP | 1.5K | 0.50% | 1/10W |
| R2018 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R2020 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R2021 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R2022 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R2023 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R2024 | 1-216-682-11 | METAL CHIP | 20K | 0.50% | 1/10W<br>(D20) |
| R2025 | 1-216-669-11 | METAL CHIP | 5.6K | 0.50% | 1/10W<br>(D20) |
| R2026 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R2027 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2028 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W |
| R2029 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R2030 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2031 | 1-216-689-11 | METAL CHIP | 39K | 0.50% | 1/10W |
| R2032 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R2033 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R2034 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R2035 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R2036 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W<br>(D20) |
| R2037 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W<br>(D20) |
| R2037 | 1-216-295-91 | SHORT | 0 (D24) | | |
| R2038 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W<br>(D20) |
| R2039 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W<br>(D20) |
| R2040 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W<br>(D20) |
| R2041 | 1-216-687-11 | METAL CHIP | 33K | 0.50% | 1/10W<br>(D20) |
| R2042 | 1-216-693-11 | METAL CHIP | 56K | 0.50% | 1/10W<br>(D20) |
| R2043 | 1-216-682-11 | METAL CHIP | 20K | 0.50% | 1/10W<br>(D20) |
| R2044 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W<br>(D20) |
| R2044 | 1-216-295-91 | SHORT | 0 (D24) | | |
| R2045 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2046 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R2047 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R2048 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W<br>(D20) |
| R2048 | 1-216-295-91 | SHORT | 0 (D24) | | |
| R2301 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R2302 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W |
| R2303 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R2304 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R2305 | 1-216-689-11 | METAL CHIP | 39K | 0.50% | 1/10W |
| R2306 | 1-216-673-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R2307 | 1-216-690-11 | METAL CHIP | 43K | 0.50% | 1/10W |
| R2308 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2309 | 1-216-693-11 | METAL CHIP | 56K | 0.50% | 1/10W |
| R2310 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2311 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R2312 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R2313 | 1-216-687-11 | METAL CHIP | 33K | 0.50% | 1/10W |
| R2314 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2315 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2316 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R2317 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W |
| R2318 | 1-216-689-11 | METAL CHIP | 39K | 0.50% | 1/10W |
| R2319 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2320 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2321 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R2322 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2323 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R2324 | 1-216-662-11 | METAL CHIP | 3K | 0.50% | 1/10W |
| R2325 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R2326 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R2327 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R2328 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2329 | 1-216-690-11 | METAL CHIP | 43K | 0.50% | 1/10W |
| R2330 | 1-216-673-11 | METAL CHIP | 8.2K | 0.50% | 1/10W |
| R2331 | 1-216-693-11 | METAL CHIP | 56K | 0.50% | 1/10W |
| R2332 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2333 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2334 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R2335 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R2336 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R2337 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R2338 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R2339 | 1-216-695-11 | METAL CHIP | 68K | 0.50% | 1/10W |
| R2340 | 1-216-697-91 | METAL CHIP | 82K | 0.50% | 1/10W |
| R7001 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7002 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7003 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7004 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7005 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R7006 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R7007 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R7008 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R7009 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7011 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7012 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7013 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R7014 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R7015 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R7016 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7017 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7018 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7019 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7020 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7021 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7022 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7023 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7025 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7026 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7027 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7028 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7029 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7030 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7031 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7032 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R7033 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7034 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7035 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7036 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7037 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7038 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7039 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7040 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7041 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7042 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R7050 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R7051 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R7052 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R7053 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R7054 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | <RELAY> | | | | |
| RY1 | 1-755-129-21 | RELAY | | | |
| | <TRANSFORMER> | | | | |
| T1 | 1-427-762-11 | TRANSFORMER, FERRITE (HDT) | | | |
| T2 | 1-435-183-11 | TRABSFORMER, FERRITE (HOT) | | | |
| T3 | 1-435-181-11 | TRABSFORMER, FERRITE (HLT) | | | |
| T4 | 1-431-443-11 | TRANSFORMER, FERRITE (HST) | | | |
| | <TEST PIN> | | | | |
| TP1 | ∗1-537-864-11 | PIN, POST | | | |
| TP8 | ∗1-537-864-11 | PIN, POST | | | |
| TP2023 | ∗1-537-864-11 | PIN, POST | | | |
| TP2024 | ∗1-537-864-11 | PIN, POST | | | |
| TP2025 | ∗1-537-864-11 | PIN, POST | | | |
| | <CRYSTAL> | | | | |
| X7001 | 1-578-689-21 | VIBRATOR (8MHz) | | | |
| ************************************************************** | | | | | |
| | ∗A-1343-730-A | EA MOUNT | | | |
| | | *********** | | | |
| | <CAPACITOR> | | | | |
| C503 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C504 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C505 | 1-126-400-11 | ELECT CHIP | 22µF | 20% | 35V |
| C506 | 1-126-399-11 | ELECT CHIP | 10µF | 20% | 35V |
| C531 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C533 | 1-126-399-11 | ELECT CHIP | 10µF | 20% | 35V |
| C591 | 1-126-397-11 | ELECT CHIP | 33µF | 20% | 25V |
| C592 | 1-126-397-11 | ELECT CHIP | 33µF | 20% | 25V |
| C593 | 1-126-397-11 | ELECT CHIP | 33µF | 20% | 25V |
| | <CONNECTOR> | | | | |
| CN502 | ∗1-774-246-11 | CONNECTOR, BOARD TO BOARD 10P | | | |
| CN504 | ∗1-793-891-11 | CONNECTOR, BORAD TO BOARD 3P | | | |
| | <DIODE> | | | | |
| D504 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D505 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D506 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D531 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D532 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D551 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| | <IC> | | | | |
| IC501 | 8-759-988-13 | IC LM393PS | | | |
| IC531 | 8-759-988-13 | IC LM393PS | | | |
| | <TRANSISTOR> | | | | |
| Q501 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| Q502 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| Q503 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| Q504 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | <RESISTOR> | | | | |
| R504 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W |
| R505 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R506 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R507 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W |
| R508 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R509 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R510 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R511 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R531 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R532 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R533 | 1-247-855-31 | CARBON | 10K | 5% | 1/4W |
| R534 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W |
| R536 | 1-216-121-91 | RES,CHIP | 1M | 5% | 1/10W |
| R537 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R538 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R556 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R557 | 1-216-105-91 | RES,CHIP | 220K | 5% | 1/10W |
| R558 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| ************************************************************** | | | | | |
| | ⚠∗A-1316-457-A | G COMPL | | | |
| | | ********** | | | |
| | ⚠1-251-263-11 | INLET, AC | | | |
| | ⚠1-762-300-11 | SWITCH, AC POWER SEESAW | | | |
| | ∗1-533-701-11 | HOLDER, FUSE (F1) | | | |
| | 1-900-214-49 | CONNECTOR ASSY, VH 7P | | | |
| | 2-990-241-02 | HOLDER (A), PLUG | | | |
| | ∗3-648-057-00 | NUT (ISO-4), U | | | |
| | ∗3-648-057-00 | NUT (ISO-4), U | | | |
| | ∗4-030-359-01 | HEAT SINK, H. PIN | | | |
| | ∗4-050-794-03 | INSULATOR | | | |
| | ∗4-050-798-01 | PLATE, NUT, AC INLET | | | |
| | ∗4-050-818-12 | PANEL, POWER UNIT | | | |
| | ∗4-050-824-01 | INSULATOR, POWER UNIT | | | |
| | ∗4-050-850-01 | COVER, POWER UNIT | | | |
| | ∗4-064-021-01 | PLATE, NUT | | | |
| | ∗4-072-123-01 | CAP, INSULATING | | | |
| | 4-382-854-01 | SCREW (M3X8), P, SW (+) | | | |
| | 4-382-854-11 | SCREW (M3X10), P, SW (+) | | | |
| | 7-682-566-04 | SCREW +B 4X20 | | | |
| | 7-682-647-09 | SCREW +PS 3X6 | | | |
| | 7-682-654-09 | SCREW +PS 3X25 | | | |
| | 7-682-661-01 | SCREW +PS 4X8 | | | |
| | 7-682-950-09 | SCREW +PSW 3X12 | | | |
| | 7-685-872-09 | SCREW +BVTT 3X8 (S) | | | |
| | <CAPACITOR> | | | | |
| C1 | ⚠1-104-708-51 | FILM | 0.47µF | 20% | 250V |
| C2 | ⚠1-113-907-51 | CERAMIC | 0.0022µF | 20% | 250V |
| C3 | ⚠1-113-907-51 | CERAMIC | 0.0022µF | 20% | 250V |
| C4 | ⚠1-104-708-51 | FILM | 0.47µF | 20% | 250V |
| C5 | ⚠1-113-926-91 | CERAMIC | 0.0047µF | | 250V |
| C6 | ⚠1-113-926-91 | CERAMIC | 0.0047µF | | 250V |
| C7 | 1-137-479-11 | FILM | 1µF | 10% | 400V |
| C8 | 1-107-910-11 | ELECT | 100µF | 20% | 50V |
| C9 | 1-104-652-11 | ELECT | 470µF | 20% | 10V |
| C10 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C11 | 1-107-906-11 | ELECT | 10µF | 20% | 50V |
| C12 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C13 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C14 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C15 | 1-107-909-11 | ELECT | 47µF | 20% | 50V |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C16 | 1-131-913-11 | CAPACITOR | 150µF | 20% | 450V |
| C17 | 1-131-913-11 | CAPACITOR | 150µ | 20% | 450V |
| C18 | 1-107-909-11 | ELECT | 47µF | 20% | 50V |
| C19 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C101 | 1-136-203-91 | CAPACITOR | 0.01µF | 20% | 630V |
| C102 | 1-111-118-91 | ELECT | 220µF | 20% | 50V |
| C103 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C104 | 1-107-909-11 | ELECT | 47µF | 20% | 50V |
| C105 | 1-111-063-11 | ELECT | 470µF | 20% | 25V |
| C106 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C107 | 1-107-909-11 | ELECT | 47µF | 20% | 50V |
| C108 | 1-111-019-91 | ELECT | 0.0022F | 20% | 10V |
| C109 | 1-111-019-91 | ELECT | 0.0022F | 20% | 10V |
| C110 | 1-111-019-91 | ELECT | 0.0022F | 20% | 10V |
| C111 | 1-111-063-11 | ELECT | 470µF | 20% | 25V |
| C112 | 1-107-909-11 | ELECT | 47µF | 20% | 50V |
| C113 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C114 | 1-107-909-11 | ELECT | 47µF | 20% | 50V |
| C115 | 1-115-340-11 | CERAMIC CHIP | 0.22µF | 10% | 25V |
| C116 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C117 | 1-107-877-11 | ELECT | 1000µF | 20% | 10V |
| C201 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C202 | 1-107-905-11 | ELECT | 4.7µF | 20% | 50V |
| C203 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V |
| C204 | 1-107-906-11 | ELECT | 10µF | 20% | 50V |
| C206 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C207 | 1-107-906-11 | ELECT | 10µF | 20% | 50V |
| C208 | 1-131-876-91 | CAPACITOR | 00000 | 0 | 0 |
| C210 | 1-131-877-91 | CAPACITOR | 10000PF | 5% | 800V |
| C211 | 1-131-877-91 | CAPACITOR | 10000PF | 5% | 800V |
| C212 | 1-107-909-11 | ELECT | 47µF | 20% | 50V |
| C213 | 1-115-789-11 | ELECT | 0.001F | 20% | 25V |
| C214 | 1-115-789-11 | ELECT | 0.001F | 20% | 25V |
| C215 | 1-115-789-11 | ELECT | 0.001F | 20% | 25V |
| C216 | 1-115-789-11 | ELECT | 0.001F | 20% | 25V |
| C217 | 1-111-019-91 | ELECT | 0.0022F | 20% | 10V |
| C218 | 1-111-019-91 | ELECT | 0.0022F | 20% | 10V |
| C219 | 1-111-019-91 | ELECT | 0.0022F | 20% | 10V |
| C220 | 1-111-019-91 | ELECT | 0.0022F | 20% | 10V |
| C221 | 1-110-641-51 | ELECT | 33µF | 20% | 200V |
| C222 | 1-110-641-51 | ELECT | 33µF | 20% | 200V |
| C223 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C224 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C225 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C226 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C227 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C228 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C229 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C230 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C231 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C232 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C233 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C234 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C235 | 1-128-528-11 | ELECT | 470µF | 20% | 25V |
| C236 | 1-128-528-11 | ELECT | 470µF | 20% | 25V |
| C237 | 1-107-877-11 | ELECT | 1000µF | 20% | 10V |
| C238 | 1-107-877-11 | ELECT | 1000µF | 20% | 10V |
| C239 | 1-107-952-11 | ELECT | 22µF | 20% | 200V |
| C801 | 1-126-235-11 | ELECT | 100µF | 20% | 10V |
| C802 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C803 | 1-107-701-11 | ELECT | 47µF | 20% | 16V |
| C804 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C805 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C806 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |
| C807 | 1-128-526-11 | ELECT | 100µF | 20% | 16V |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C808 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| C809 | 1-107-909-11 | ELECT | 47µF | 20% | 50V |
| C901 | ⚠1-113-907-51 | CERAMIC | 0.0022µF | 20% | 250V |
| C902 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V |
| | <CONNECTOR> | | | | |
| CN1 | * 1-691-960-11 | PIN, CONNECTOR (PC BOARD) 3P | | | |
| CN2 | * 1-695-561-11 | PIN, CONNECTOR (PC BOARD) 7P | | | |
| CN4 | 1-774-523-11 | PIN, CONNECTOR (PC BOARD) 64P | | | |
| | <DIODE> | | | | |
| D1 | ⚠8-719-022-99 | DIODE D6SB60L | | | |
| D2 | 8-719-037-54 | DIODE RD30SB-T1 | | | |
| D3 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D4 | 8-719-028-72 | DIODE RGP02-17EL-6433 | | | |
| D6 | 8-719-037-53 | DIODE RD27SB-T1 | | | |
| D7 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D8 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D9 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D10 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D11 | 8-719-304-63 | DIODE RM11C | | | |
| D12 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D16 | 8-719-073-01 | DIODE MA111-(K8).SO | | | |
| D101 | 8-719-063-74 | DIODE D1NL20U-TR2 | | | |
| D102 | 8-719-979-64 | DIODE UF4005PKG23 | | | |
| D104 | 8-719-159-23 | DIODE RD6.8SB1-T2 | | | |
| D105 | 8-719-027-43 | DIODE S2L20UF | | | |
| D106 | 8-719-510-41 | DIODE D10SC9M | | | |
| D107 | 8-719-063-74 | DIODE D1NL20U-TR2 | | | |
| D108 | 8-719-060-27 | DIODE SLR-325MCT31 | | | |
| D201 | 8-719-989-76 | DIODE SC802-04 | | | |
| D202 | 8-719-989-21 | DIODE SC311-6-TE12RA | | | |
| D203 | 8-719-037-23 | DIODE RD12SB1-T1 | | | |
| D204 | 8-719-060-88 | DIODE D4SBS6 | | | |
| D205 | 8-719-052-92 | DIODE D10SBS4F | | | |
| D206 | 8-719-050-18 | DIODE D4SBL20U | | | |
| D207 | 8-719-989-21 | DIODE SC311-6-TE12RA | | | |
| D801 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D802 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D803 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D804 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D805 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D806 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D807 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D808 | 8-719-157-95 | DIODE RD3.3SB1 | | | |
| D901 | ⚠8-719-404-50 | DIODE MA111-TX | | | |
| | <FUSE> | | | | |
| F1 | ⚠1-576-231-11 | FUSE (H.B.C.) | 4A/250V | | |
| | <FERRITE BEAD> | | | | |
| FB101 | 1-410-396-41 | FERRITE | 0.45µH | | |
| FB202 | 1-410-397-21 | FERRITE | 1.1µH | | |
| FB204 | 1-410-397-21 | FERRITE | 1.1µH | | |
| | <CONNECTOR ASSY> | | | | |
| IC3P | 1-900-214-50 | CONNECTOR ASSY, FASTEN TAB | | | |

<IC>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| IC1 | 8-749-015-27 | IC MZ1540 | |
| IC2 | 8-759-929-63 | IC LM7815CT | |
| IC101 | 8-759-490-02 | IC TOP224Y-BB | |
| IC102 | 8-749-011-42 | IC SI-3050F | |
| IC103 | 8-759-700-65 | IC NJM79L05A | |
| IC104 | 8-759-140-85 | IC µPC1093J | |
| IC201 | 8-749-013-78 | IC MCR5102 | |
| IC202 | 8-749-920-61 | IC SE-135N | |
| IC203 | 8-759-085-67 | IC LM339NS | |
| IC801 | 8-759-140-85 | IC µPC1093J | |
| IC802 | 8-759-085-67 | IC LM339NS | |

<COIL>

| Ref.No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| L1 | 1-406-975-21 | INDUCTOR | 47µH | |
| L101 | 1-406-971-21 | INDUCTOR | 10µH | |
| L201 | 1-406-659-11 | INDUCTOR | 10µH | |
| L202 | 1-406-659-11 | INDUCTOR | 10µH | |
| L203 | 1-406-971-21 | INDUCTOR | 10µH | |
| L204 | 1-406-971-21 | INDUCTOR | 10µH | |
| L205 | 1-406-659-11 | INDUCTOR | 10µH | |

<PHOTO COUPLER>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| PH101 | ⚠8-749-010-64 | PHOTO COUPLER PC123F2 | |
| PH103 | 8-749-010-64 | PHOTO COUPLER PC123F2 | |
| PH201 | ⚠8-749-010-64 | PHOTO COUPLER PC123F2 | |
| PH801 | ⚠8-749-010-64 | PHOTO COUPLER PC123F2 | |
| PH901 | ⚠8-749-010-64 | PHOTO COUPLER PC123F2 | |

<TRANSISTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| Q1 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q2 | 8-729-033-26 | TRANSISTOR DTA114GKAT146 | |
| Q3 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q4 | 8-729-900-53 | TRANSISTOR DTC114EK | |
| Q5 | 8-729-029-47 | TRANSISTOR DTA143ESA-TP | |
| Q6 | 8-729-029-47 | TRANSISTOR DTA143ESA-TP | |
| Q7 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q8 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q101 | 8-729-033-25 | TRANSISTOR DTC114GKA | |
| Q102 | 8-729-033-26 | TRANSISTOR DTA114GKAT146 | |
| Q103 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q801 | 8-729-027-23 | TRANSISTOR DTA114EKA-T146 | |
| Q802 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q803 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q804 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q805 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q806 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q807 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q808 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q809 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |
| Q810 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q811 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q812 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q813 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q814 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q815 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q901 | 8-729-900-53 | TRANSISTOR DTC114EK | |
| Q902 | 8-729-900-53 | TRANSISTOR DTC114EK | |
| Q903 | 8-729-900-53 | TRANSISTOR DTC114EK | |
| Q904 | 8-729-033-25 | TRANSISTOR DTC114GKA | |
| Q905 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | |

<RESISTOR>

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R1 | ⚠1-220-825-91 | CARBON | 330K | 5% | 1/2W |
| R2 | 1-240-251-11 | CMT,MELF | 6.8 | 5% | 10W |
| R3 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R4 | 1-216-095-00 | RES,CHIP | 82K | 5% | 1/10W |
| R5 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R6 | 1-216-075-00 | RES,CHIP | 12K | 5% | 1/10W |
| R7 | 1-260-085-11 | CARBON | 68 | 5% | 1/2W |
| R8 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R9 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R10 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R11 | 1-215-861-00 | METAL OXIDE | 47 | 5% | 1W F |
| R12 | 1-219-729-11 | METAL | 0.33 | 10% | 5W |
| R13 | 1-219-729-11 | METAL | 0.33 | 10% | 5W |
| R14 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R15 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W F |
| R16 | 1-215-861-00 | METAL OXIDE | 47 | 5% | 1W F |
| R17 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R18 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R19 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R20 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R21 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R22 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R23 | 1-216-695-11 | METAL CHIP | 68K | 0.50% | 1/10W |
| R101 | 1-249-387-11 | CARBON | 3.3 | 5% | 1/4W F |
| R102 | 1-215-901-00 | METAL OXIDE | 33K | 5% | 2W F |
| R103 | 1-215-917-11 | METAL OXIDE | 1K | 5% | 3W F |
| R104 | 1-216-017-91 | RES,CHIP | 47 | 5% | 1/10W |
| R105 | 1-216-077-91 | RES,CHIP | 15K | 5% | 1/10W |
| R106 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R107 | 1-215-892-11 | METAL OXIDE | 1K | 5% | 2W F |
| R108 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R109 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R110 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R111 | 1-216-635-11 | METAL CHIP | 220 | 0.50% | 1/10W |
| R112 | 1-215-886-11 | METAL OXIDE | 100 | 5% | 2W F |
| R113 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R114 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R115 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R116 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R117 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R118 | 1-219-718-11 | CEMENTED | 0.1 | 10% | 5W |
| R119 | 1-219-718-11 | CEMENTED | 0.1 | 10% | 5W |
| R120 | 1-219-718-11 | CEMENTED | 0.1 | 10% | 5W |
| R121 | 1-219-718-11 | CEMENTED | 0.1 | 10% | 5W |
| R122 | 1-216-001-00 | RES,CHIP | 10 | 5% | 1/10W |
| R123 | 1-216-009-91 | RES,CHIP | 22 | 5% | 1/10W |
| R124 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R201 | 1-202-933-61 | FUSIBLE | 0.1 | 10% | 1/2W F |
| R202 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R203 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R204 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R205 | 1-216-676-11 | METAL CHIP | 11K | 0.50% | 1/10W |
| R206 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R207 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W |
| R208 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R209 | 1-219-729-11 | METAL | 0.33 | 10% | 5W |
| R210 | 1-219-729-11 | METAL | 0.33 | 10% | 5W |
| R211 | 1-219-512-11 | CARBON | 2.2M | 5% | 1/2W |
| R213 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R215 | 1-219-512-11 | CARBON | 2.2M | 5% | 1/2W |
| R217 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R218 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R219 | 1-219-718-11 | CEMENTED | 0.1 | 10% | 5W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R220 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R221 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R222 | 1-218-775-11 | METAL CHIP | 910K | 0.50% | 1/10W |
| R223 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R224 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R225 | 1-219-718-11 | CEMENTED | 0.1 | 10% | 5W |
| R226 | 1-219-718-11 | CEMENTED | 0.1 | 10% | 5W |
| R227 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R228 | 1-216-697-91 | METAL CHIP | 82K | 0.50% | 1/10W |
| R229 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R230 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R231 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R232 | 1-219-718-11 | CEMENTED | 0.1 | 10% | 5W |
| R233 | 1-219-718-11 | CEMENTED | 0.1 | 10% | 5W |
| R234 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R235 | 1-216-697-91 | METAL CHIP | 82K | 0.50% | 1/10W |
| R236 | 1-216-665-11 | METAL CHIP | 3.9K | 0.50% | 1/10W |
| R237 | 1-219-718-11 | CEMENTED | 0.1 | 10% | 5W |
| R238 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W |
| R239 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R240 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R241 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R242 | 1-219-718-11 | CEMENTED | 0.1 | 10% | 5W |
| R243 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R244 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R245 | 1-218-775-11 | METAL CHIP | 910K | 0.50% | 1/10W |
| R246 | 1-202-933-61 | FUSIBLE | 0.1 | 10% | 1/2W F |
| R247 | 1-202-933-61 | FUSIBLE | 0.1 | 10% | 1/2W F |
| R248 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R249 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R250 | 1-218-760-11 | METAL CHIP | 220K | 0.50% | 1/10W |
| R801 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W |
| R802 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R803 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R804 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R805 | 1-216-661-11 | METAL CHIP | 2.7K | 0.50% | 1/10W |
| R806 | 1-216-657-11 | METAL CHIP | 1.8K | 0.50% | 1/10W |
| R807 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R808 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R809 | 1-216-676-11 | METAL CHIP | 11K | 0.50% | 1/10W |
| R810 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R811 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R812 | 1-216-049-91 | RES,CHIP | 1K | 5% | 1/10W |
| R813 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R814 | 1-216-697-91 | METAL CHIP | 82K | 0.50% | 1/10W |
| R815 | 1-216-697-91 | METAL CHIP | 82K | 0.50% | 1/10W |
| R816 | 1-216-697-91 | METAL CHIP | 82K | 0.50% | 1/10W |
| R817 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R818 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W |
| R819 | 1-216-653-11 | METAL CHIP | 1.2K | 0.50% | 1/10W |
| R820 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R821 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R822 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R823 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R824 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R825 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R826 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R827 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R828 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R829 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R901 | ⚠1-219-513-11 | CARBON | 4.7M | 5% | 1/2W |
| R902 | ⚠1-219-513-11 | CARBON | 4.7M | 5% | 1/2W |
| R903 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R904 | 1-216-041-00 | RES,CHIP | 470 | 5% | 1/10W |
| R905 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W |
| R906 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R907 | 1-260-085-11 | CARBON | 68 | 5% | 1/2W |
| | <RELAY> | | | | |
| RY1 | ⚠1-755-268-11 | RELAY, AC POWER | | | |
| RY2 | 1-755-171-11 | RELAY | | | |
| | <SPARK GAP> | | | | |
| SG1 | ⚠1-533-982-21 | GAP, SPARK | | | |
| | <TRANSFORMER> | | | | |
| T1 | ⚠1-435-180-11 | TRANSFORMER, LINE FILTER | | | |
| T2 | ⚠1-435-180-11 | TRANSFORMER, LINE FILTER | | | |
| T3 | 1-419-336-11 | COIL, CHOKE | | | |
| T101 | ⚠1-435-184-11 | TRANSFORMER, CONVERTER | | | |
| T201 | ⚠1-435-179-11 | TRANSFORMER, CONVERTER | | | |
| | <THERMISTOR> | | | | |
| THP1 | ⚠1-808-059-32 | THERMISTOR, POSITIVE | | | |
| | <TEST PIN> | | | | |
| TP1 | * 1-537-864-11 | PIN, POST | | | |
| TP2 | * 1-537-864-11 | PIN, POST | | | |
| TP3 | * 1-537-864-11 | PIN, POST | | | |
| TP4 | * 1-537-864-11 | PIN, POST | | | |
| TP5 | * 1-537-864-11 | PIN, POST | | | |
| TP6 | * 1-537-864-11 | PIN, POST | | | |
| TP7 | * 1-537-864-11 | PIN, POST | | | |
| TP8 | * 1-537-864-11 | PIN, POST | | | |
| TP9 | * 1-537-864-11 | PIN, POST | | | |
| | <VARISTOR> | | | | |
| VDR2 | ⚠1-801-268-51 | VARISTOR TNR14V471K660 | | | |
| VDR3 | ⚠1-810-622-21 | VARISTOR | | | |

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| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | * A-1372-136-A | HD MOUNT<br>*********** | | | |
| | <CONNECTOR> | | | | |
| CN101 | 1-565-269-11 | SOCKET, CONNECTOR (D-DUB,L) 9P | | | |
| CN102 | 1-506-474-11 | PIN, CONNECTOR 9P | | | |
| | <DIODE> | | | | |
| D101 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D102 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D103 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D104 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |
| D105 | 8-719-037-00 | DIODE RD6.2SB2-T1 | | | |

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| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | ∗ A-1195-157-A | PA COMPL (D24) | | | |
| | ∗ A-1195-155-A | PA COMPL (D20) | | | |
| | | **************** | | | |
| | ∗ X-4035-068-1 | HEAT SINK ASSY (D20) | | | |
| | 3-710-578-01 | COVER, VOLUME, 6 MOLD | | | |
| | 4-047-285-01 | SHEET, INSULATING | | | |
| | 4-382-854-11 | SCREW (M3X10), P, SW (+) | | | |
| | 7-682-950-01 | SCREW +PSW 3X12 | | | |
| | <CAPACITOR> | | | | |
| C101 | 1-126-934-11 | ELECT | 220µF | 20% | 16V |
| C102 | 1-123-024-21 | ELECT | 33µF | | 160V |
| C103 | 1-137-417-11 | MYLAR | 0.0047µF | 10% | 200V |
| C104 | 1-115-522-11 | FILM | 1µF | 5% | 250V |
| C105 | 1-106-355-12 | MYLAR | 0.0033µF | 10% | 200V |
| C106 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C107 | 1-162-134-11 | CERAMIC | 470PF | 10% | 2KV |
| C108 | 1-136-069-00 | FILM | 0.0044µF | 3% | 2KV |
| C201 | 1-126-934-11 | ELECT | 220µF | 20% | 16V |
| C202 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C203 | 1-115-350-51 | CERAMIC | 0.0047µF | | 2KV |
| C204 | 1-115-350-51 | CERAMIC | 0.0047µF | | 2KV<br>(D24) |
| C205 | 1-115-350-51 | CERAMIC | 0.0047µF | | 2KV<br>(D24) |
| C301 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C302 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C305 | 1-164-505-11 | CERAMIC CHIP | 2.2µF | | 16V |
| C501 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V |
| C502 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C503 | 1-164-690-91 | CERAMIC CHIP | 0.0022µF | 5% | 50V |
| C504 | 1-163-275-11 | CERAMIC CHIP | 0.001µF | 5% | 50V |
| C505 | 1-126-934-11 | ELECT | 220µF | 20% | 16V |
| C506 | 1-104-665-11 | ELECT | 100µF | 20% | 25V |
| C507 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C508 | 1-163-243-11 | CERAMIC CHIP | 47PF | 5% | 50V |
| C509 | 1-126-960-11 | ELECT | 1µF | 20% | 50V |
| C510 | 1-104-663-11 | ELECT | 33µF | 20% | 25V |
| C511 | 1-127-573-91 | CERAMIC CHIP | 1µF | 10% | 16V |
| C512 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C513 | 1-127-573-91 | CERAMIC CHIP | 1µF | 10% | 16V |
| C514 | 1-126-963-11 | ELECT | 4.7µF | 20% | 50V |
| C515 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V<br>(D20) |
| C516 | 1-127-573-91 | CERAMIC CHIP | 1µF | 10% | 16V |
| C517 | 1-126-964-11 | ELECT | 10µF | 20% | 50V |
| C518 | 1-107-701-11 | ELECT | 47µF | 20% | 16V |
| C519 | 1-164-816-91 | CERAMIC CHIP | 220PF | 5% | 50V<br>(D20) |
| C520 | 1-127-573-91 | CERAMIC CHIP | 1µF | 10% | 16V |
| C600 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V<br>(D24) |
| C601 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D24) |
| C602 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D24) |
| C620 | 1-104-664-11 | ELECT | 47µF | 20% | 25V<br>(D24) |
| C622 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C623 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D24) |
| C624 | 1-126-953-11 | ELECT | 2200µF | 20% | 35V<br>(D24) |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C625 | 1-126-953-11 | ELECT | 2200µF | 20% | 35V<br>(D24) |
| C626 | 1-126-767-11 | ELECT | 1000µF | 20% | 16V<br>(D24) |
| C627 | 1-126-767-11 | ELECT | 1000µF | 20% | 16V<br>(D24) |
| C628 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C629 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C630 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C631 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C632 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D24) |
| C633 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D24) |
| C650 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C651 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C652 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C653 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C654 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C655 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D24) |
| C656 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D24) |
| C657 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D24) |
| C658 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D24) |
| C659 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D24) |
| C660 | 1-163-009-11 | CERAMIC CHIP | 0.001µF | 10% | 50V<br>(D24) |
| C661 | 1-126-935-11 | ELECT | 470µF | 20% | 16V<br>(D24) |
| C670 | 1-104-652-11 | ELECT | 470µF | 20% | 10V<br>(D24) |
| C671 | 1-104-652-11 | ELECT | 470µF | 20% | 10V<br>(D24) |
| C672 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C673 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C674 | 1-104-652-11 | ELECT | 470µF | 20% | 10V<br>(D24) |
| C675 | 1-104-652-11 | ELECT | 470µF | 20% | 10V<br>(D24) |
| C676 | 1-104-652-11 | ELECT | 470µF | 20% | 10V<br>(D24) |
| C677 | 1-104-652-11 | ELECT | 470µF | 20% | 10V<br>(D24) |
| C678 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C679 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C680 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C681 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C682 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |
| C683 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V<br>(D24) |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C684 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V (D24) |
| C685 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V (D24) |
| C687 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V (D24) |
| C700 | 1-130-495-00 | FILM | 0.1µF | 5% | 50V (D24) |
| C701 | 1-130-495-00 | FILM | 0.1µF | 5% | 50V (D24) |
| C702 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V (D24) |
| C703 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V (D24) |
| C704 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V (D24) |
| C705 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V (D24) |
| C706 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V (D24) |
| C707 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V (D24) |
| C708 | 1-104-664-11 | ELECT | 47µF | 20% | 25V (D24) |
| C709 | 1-104-664-11 | ELECT | 47µF | 20% | 25V (D24) |
| C710 | 1-164-489-11 | CERAMIC CHIP | 0.22µF | 10% | 16V (D24) |
| C711 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V (D24) |
| C712 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V (D24) |
| C713 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V (D24) |
| C714 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V (D24) |
| C715 | 1-115-339-11 | CERAMIC CHIP | 0.1µF | 10% | 50V (D24) |
| C716 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V (D24) |
| C717 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V (D24) |
| C718 | 1-104-664-11 | ELECT | 47µF | 20% | 25V (D24) |
| C719 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V (D24) |
| C720 | 1-104-664-11 | ELECT | 47µF | 20% | 25V (D24) |
| C721 | 1-130-495-00 | FILM | 0.1µF | 5% | 50V (D24) |
| C722 | 1-130-495-00 | FILM | 0.1µF | 5% | 50V (D24) |
| C723 | 1-104-664-11 | ELECT | 47µF | 20% | 25V (D24) |
| C724 | 1-104-664-11 | ELECT | 47µF | 20% | 25V (D24) |
| C725 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V (D24) |
| C726 | 1-130-495-00 | FILM | 0.1µF | 5% | 50V (D24) |
| C760 | 1-107-889-11 | ELECT | 220µF | 20% | 10V (D24) |
| C761 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V (D24) |
| C762 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V (D24) |
| C763 | 1-107-889-11 | ELECT | 220µF | 20% | 10V (D24) |
| C764 | 1-163-031-11 | CERAMIC CHIP | 0.01µF | | 50V (D24) |
| C801 | 1-126-967-11 | ELECT | 47µF | 20% | 50V |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C802 | 1-130-481-00 | MYLAR | 0.0068µF | 5% | 50V |
| C803 | 1-163-037-11 | CERAMIC CHIP | 0.022µF | 10% | 50V |
| C804 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C811 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C849 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V (D24) |
| C901 | 1-128-526-11 | ELECT | 100µF | 20% | 25V |
| C902 | 1-128-526-11 | ELECT | 100µF | 20% | 25V |
| C903 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C904 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| C907 | 1-107-639-11 | ELECT | 47µF | 20% | 160V |
| C911 | 1-107-888-11 | ELECT | 47µF | 20% | 25V |
| C912 | 1-164-004-11 | CERAMIC CHIP | 0.1µF | 10% | 25V |
| C921 | 1-128-526-11 | ELECT | 100µF | 20% | 25V |
| C923 | 1-163-021-91 | CERAMIC CHIP | 0.01µF | 10% | 50V |
| | <CONNECTOR> | | | | |
| CN600 | ∗ 1-564-513-11 | PLUG, CONNECTOR 10P | | | |
| CN801 | 1-774-536-11 | CONNECTOR PIN (PC BOARD) 34P | | | |
| CN901 | 1-774-536-11 | CONNECTOR PIN (PC BOARD) 34P (D20) | | | |
| CN902 | 1-766-243-11 | PIN, CONNECTOR (PC BOARD) 5P | | | |
| CN903 | 1-766-241-11 | PIN, CONNECTOR (PC BOARD) 3P | | | |
| CN904 | 1-764-334-11 | PLUG, CONNECTOR 11P | | | |
| CN905 | 1-766-240-11 | PIN, CONNECTOR (PC BOARD) 2P (D20) | | | |
| CN905 | ∗ 1-691-135-11 | PIN, CONNECTOR (PC BOARD) 4P (D24) | | | |
| | <DIODE> | | | | |
| D101 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D102 | 8-719-158-49 | DIODE RD12SB2 | | | |
| D103 | 8-719-920-67 | DIODE ERC91-02 | | | |
| D104 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D107 | 8-719-941-74 | DIODE ERB91-02 (D20) | | | |
| D201 | 8-719-901-19 | DIODE V11N | | | |
| D203 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D204 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D205 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D206 | 8-719-901-19 | DIODE V11N (D24) | | | |
| D207 | 8-719-901-19 | DIODE V11N (D24) | | | |
| D301 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D321 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D322 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D401 | 8-719-073-01 | DIODE MA111-(K8).S0 (D20) | | | |
| D501 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D502 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D503 | 8-719-109-80 | DIODE RD4.7ESB1 | | | |
| D505 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D511 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D512 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D513 | 8-719-157-94 | DIODE RD3.3SB | | | |
| D514 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D516 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D517 | 8-719-157-94 | DIODE RD3.3SB | | | |
| D518 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D519 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D521 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D522 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D524 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D525 | 8-719-158-40 | DIODE RD10SB1 | | | |
| D530 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D531 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D532 | 8-719-073-01 | DIODE MA111-(K8).S0 | | | |
| D533 | 8-719-036-65 | DIODE RD2.0SB-T1 | | | |
| D600 | 8-719-073-01 | DIODE MA111-(K8).S0 (D24) | | | |

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| D700 | 8-719-062-51 | DIODE 1PS226-115 (D24) | |
| D701 | 8-719-062-51 | DIODE 1PS226-115 (D24) | |
| D702 | 8-719-062-51 | DIODE 1PS226-115 (D24) | |
| D703 | 8-719-062-51 | DIODE 1PS226-115 (D24) | |
| D704 | 8-719-062-51 | DIODE 1PS226-115 (D24) | |
| D801 | 8-719-158-49 | DIODE RD12SB2 | |
| D810 | 8-719-941-74 | DIODE ERB91-02 (D24) | |
| D901 | ⚠8-759-300-59 | DIODE HZT33-02TA | |
| D902 | ⚠8-759-300-59 | DIODE HZT33-02TA | |
| | <FILTER> | | |
| FL600 | 1-236-164-11 | ENCAPSULATED COMPONENT (D24) | |
| | <IC> | | |
| IC401 | 8-759-981-48 | IC TL082M(D20) | |
| IC501 | 8-759-467-70 | IC BA9756FS-E2 | |
| IC502 | 8-759-988-13 | IC LM393PS | |
| IC600 | 8-759-100-96 | IC µPC4558G2 (D24) | |
| IC601 | 8-759-144-82 | IC µPC2405HF (D24) | |
| IC602 | 8-759-247-67 | IC LM2990T-5.0 (D24) | |
| IC603 | 8-759-100-96 | IC µPC4558G2 (D24) | |
| IC604 | 8-759-100-96 | IC µPC4558G2 (D24) | |
| IC605 | 8-759-100-96 | IC µPC4558G2 (D24) | |
| IC606 | 8-759-100-96 | IC µPC4558G2 (D24) | |
| IC620 | 8-759-100-96 | IC µPC4558G2 (D24) | |
| IC621 | 8-759-100-96 | IC µPC4558G2 (D24) | |
| IC622 | 8-759-100-96 | IC µPC4558G2 (D24) | |
| IC623 | 8-759-011-65 | IC MC74HC4053F (D24) | |
| IC624 | 8-759-011-65 | IC MC74HC4053F (D24) | |
| IC700 | 8-759-822-38 | IC LA6510 (D24) | |
| IC701 | 8-759-822-38 | IC LA6510 (D24) | |
| IC702 | 8-759-803-42 | IC LA6500-FA (D24) | |
| IC710 | 8-752-072-94 | IC CXA1875AM-T4 (D24) | |
| IC711 | 8-752-072-94 | IC CXA1875AM-T4 (D24) | |
| IC801 | 8-759-981-48 | IC TL082M (D20) | |
| IC803 | 8-759-981-48 | IC TL082M (D24) | |
| IC805 | 8-759-981-48 | IC TL082M (D24) | |
| IC901 | 8-759-701-79 | IC NJM7812FA | |
| | <COIL> | | |
| L101 | 1-429-284-11 | TRANSFORMER, FERRITE (LOT) | |
| L102 | 1-406-659-11 | INDUCTOR 10µH | |
| | <TRANSISTOR> | | |
| Q101 | 8-729-803-76 | TRANSISTOR 2SA1371-E | |
| Q102 | 8-729-015-28 | TRANSISTOR IRFI9630GS | |
| Q103 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q104 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q105 | 8-729-266-82 | TRANSISTOR 2SC2668-O | |
| Q107 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q108 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q109 | 8-729-020-64 | TRANSISTOR IRFPG50LF | |
| Q113 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | |
| Q201 | 8-729-020-07 | TRANSISTOR 2SC4686A(LBSONY) (D20) | |
| Q201 | 8-729-032-61 | TRANSISTOR 2SC5022-02 (D24) | |
| Q202 | 8-729-032-61 | TRANSISTOR 2SC5022-02 (D24) | |
| Q202 | 8-729-020-07 | TRANSISTOR 2SC4686A(LBSONY) (D20) | |
| Q210 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q301 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q302 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q303 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q304 | 8-729-927-54 | TRANSISTOR 2SD1762F | |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| Q305 | 8-729-141-83 | TRANSISTOR 2SB1094-LK | | | |
| Q321 | 8-729-020-07 | TRANSISTOR 2SC4686A(LBSONY) | | | |
| Q322 | 8-729-020-07 | TRANSISTOR 2SC4686A(LBSONY) | | | |
| Q401 | 8-729-020-07 | TRANSISTOR 2SC4686A(LBSONY) (D20) | | | |
| Q501 | 8-729-027-38 | TRANSISTOR DTA144EKA-T146 | | | |
| Q502 | 1-801-806-11 | TRANSISTOR DTC144EKA-T146 | | | |
| | <RESISTOR> | | | | |
| R101 | 1-216-347-11 | METAL OXIDE | 0.68 | 5% | 1W F |
| R102 | 1-216-635-11 | METAL CHIP | 220 | 0.50% | 1/10W |
| R103 | 1-215-479-00 | METAL | 270K | 1% | 1/4W |
| R104 | 1-215-477-00 | METAL | 220K | 1% | 1/4W |
| R105 | 1-216-055-00 | RES,CHIP | 1.8K | 5% | 1/10W |
| R106 | 1-216-635-11 | METAL CHIP | 220 | 0.50% | 1/10W |
| R107 | 1-215-479-00 | METAL | 270K | 1% | 1/4W |
| R108 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R109 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R110 | 1-249-397-11 | CARBON | 22 | 5% | 1/4W F |
| R111 | 1-215-911-11 | METAL OXIDE | 100 | 5% | 3W F |
| R112 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R113 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R114 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R115 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R116 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R117 | 1-216-001-00 | RES,CHIP | 10 | 5% | 1/10W |
| R201 | 1-216-105-91 | RES,CHIP | 220K | 5% | 1/10W<br>(D20) |
| R201 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W<br>(D24) |
| R202 | 1-216-089-00 | RES,CHIP | 47K | 5% | 1/10W<br>(D20) |
| R202 | 1-216-083-00 | RES,CHIP | 27K | 5% | 1/10W<br>(D24) |
| R203 | 1-216-101-00 | RES,CHIP | 150K | 5% | 1/10W<br>(D20) |
| R203 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W<br>(D24) |
| R204 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R205 | 1-216-095-00 | RES,CHIP | 82K | 5% | 1/10W |
| R206 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R207 | 1-208-612-11 | METAL OXIDE | 10µ | 5% | 1W |
| R208 | 1-208-612-11 | METAL OXIDE | 10µ | 5% | 1W |
| R209 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R210 | 1-216-093-91 | METAL CHIP | 68K | 5% | 1/10W<br>(D20) |
| R210 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W<br>(D24) |
| R211 | 1-219-759-11 | CARBON | 1µ | 5% | 1/2W |
| R212 | 1-219-038-11 | FUSIBLE | 470 | 5% | 1/2W F |
| R301 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R302 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R303 | 1-216-069-00 | RES,CHIP | 6.8K | 5% | 1/10W<br>(D20) |
| R304 | 1-216-051-00 | RES,CHIP | 1.2K | 5% | 1/10W |
| R305 | 1-216-061-00 | RES,CHIP | 3.3K | 5% | 1/10W<br>(D20) |
| R305 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W<br>(D24) |
| R307 | 1-208-610-11 | METAL OXIDE | 2µ | 5% | 1W |
| R308 | 1-216-035-00 | RES,CHIP | 270 | 5% | 1/10W |
| R309 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R310 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W F |
| R311 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W F |
| R312 | 1-215-862-11 | METAL OXIDE | 68 | 5% | 1W F |
| R313 | 1-215-862-11 | METAL OXIDE | 68 | 5% | 1W F |
| R321 | 1-216-099-00 | RES,CHIP | 120K | 5% | 1/10W |

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# PA

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R322 | 1-208-610-11 | METAL OXIDE | 2M | 5% | 1W |
| R323 | 1-208-612-11 | METAL OXIDE | 10M | 5% | 1W (D20) |
| R324 | 1-219-749-91 | CARBON | 10K | 5% | 1/2W |
| R363 | 1-216-069-00 | RES,CHIP | 6.8K | 5% | 1/10W (D24) |
| R401 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D20) |
| R402 | 1-216-089-91 | RES,CHIP | 47K | 5% | 1/10W (D20) |
| R403 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D20) |
| R404 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D20) |
| R405 | 1-216-103-00 | RES,CHIP | 180K | 5% | 1/10W (D20) |
| R406 | 1-219-759-11 | CARBON | 1M | 5% | 1/2W (D20) |
| R501 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R502 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R503 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W (D20) |
| R503 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W (D24) |
| R504 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R505 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R506 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W |
| R507 | 1-216-085-00 | RES,CHIP | 33K | 5% | 1/10W |
| R508 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R509 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R510 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R511 | 1-216-067-00 | RES,CHIP | 5.6K | 5% | 1/10W |
| R512 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R513 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R514 | 1-218-754-11 | METAL CHIP | 120K | 0.50% | 1/10W |
| R515 | 1-218-769-11 | METAL CHIP | 510K | 0.50% | 1/10W |
| R516 | 1-218-769-11 | METAL CHIP | 510K | 0.50% | 1/10W |
| R517 | 1-216-666-11 | METAL CHIP | 4.3K | 0.50% | 1/10W (D20) |
| R517 | 1-216-662-11 | METAL CHIP | 3K | 0.50% | 1/10W (D24) |
| R519 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R521 | 1-216-295-91 | SHORT | 0 | | |
| R522 | 1-216-698-11 | METAL CHIP | 91K | 5% | 1/10W (D20) |
| R522 | 1-216-694-11 | METAL CHIP | 62K | 0.50% | 1/10W (D24) |
| R524 | 1-216-692-11 | METAL CHIP | 51K | 0.50% | 1/10W |
| R525 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R526 | 1-216-694-11 | METAL CHIP | 62K | 0.50% | 1/10W |
| R527 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W |
| R529 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W |
| R530 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W |
| R532 | 1-216-687-11 | METAL CHIP | 33K | 0.50% | 1/10W |
| R533 | 1-216-053-00 | RES,CHIP | 1.5K | 5% | 1/10W |
| R600 | 1-216-081-00 | RES,CHIP | 22K | 5% | 1/10W (D24) |
| R601 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R602 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R603 | 1-216-685-11 | METAL CHIP | 27K | 0.50% | 1/10W (D24) |
| R604 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R605 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W (D24) |
| R606 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R607 | 1-216-694-11 | METAL CHIP | 62K | 0.50% | 1/10W (D24) |
| R608 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W (D24) |
| R609 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W (D24) |
| R610 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W (D24) |
| R611 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W (D24) |
| R612 | 1-216-682-11 | METAL CHIP | 20K | 0.50% | 1/10W (D24) |
| R613 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W (D24) |
| R620 | 1-216-699-91 | METAL CHIP | 100K | 0.50% | 1/10W (D24) |
| R621 | 1-216-699-91 | METAL CHIP | 100K | 0.50% | 1/10W (D24) |
| R622 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R623 | 1-216-684-91 | METAL CHIP | 24K | 0.50% | 1/10W (D24) |
| R624 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W (D24) |
| R625 | 1-216-063-91 | RES,CHIP | 3.9K | 5% | 1/10W (D24) |
| R626 | 1-216-678-11 | METAL CHIP | 13K | 0.50% | 1/10W (D24) |
| R627 | 1-216-129-00 | RES,CHIP | 2.2M | 5% | 1/10W (D24) |
| R628 | 1-216-129-00 | RES,CHIP | 2.2M | 5% | 1/10W (D24) |
| R629 | 1-218-776-11 | METAL CHIP | 1M | 0.50% | 1/10W (D24) |
| R630 | 1-218-774-11 | METAL CHIP | 820K | 0.50% | 1/10W (D24) |
| R631 | 1-216-113-00 | RES,CHIP | 470K | 5% | 1/10W (D24) |
| R632 | 1-216-113-00 | RES,CHIP | 470K | 5% | 1/10W (D24) |
| R633 | 1-216-113-00 | RES,CHIP | 470K | 5% | 1/10W (D24) |
| R634 | 1-216-113-00 | RES,CHIP | 470K | 5% | 1/10W (D24) |
| R635 | 1-216-673-11 | METAL CHIP | 8.2K | 0.50% | 1/10W (D24) |
| R636 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R637 | 1-216-671-11 | METAL CHIP | 6.8K | 0.50% | 1/10W (D24) |
| R638 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R639 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R640 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R641 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R642 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R643 | 1-216-059-00 | RES,CHIP | 2.7K | 5% | 1/10W (D24) |
| R644 | 1-216-057-00 | RES,CHIP | 2.2K | 5% | 1/10W (D24) |
| R645 | 1-216-668-11 | METAL CHIP | 5.1K | 0.50% | 1/10W (D24) |
| R646 | 1-216-659-11 | METAL CHIP | 2.2K | 0.50% | 1/10W (D24) |
| R647 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R648 | 1-216-687-11 | METAL CHIP | 33K | 0.50% | 1/10W (D24) |
| R649 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W (D24) |
| R650 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W (D24) |
| R651 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R652 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R653 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R654 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R656 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R657 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R658 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R669 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W (D24) |
| R670 | 1-216-682-11 | METAL CHIP | 20K | 0.50% | 1/10W (D24) |
| R671 | 1-216-682-11 | METAL CHIP | 20K | 0.50% | 1/10W (D24) |
| R672 | 1-216-682-11 | METAL CHIP | 20K | 0.50% | 1/10W (D24) |
| R673 | 1-216-682-11 | METAL CHIP | 20K | 0.50% | 1/10W (D24) |
| R674 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W (D24) |
| R675 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W (D24) |
| R676 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R677 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W (D24) |
| R678 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R679 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W (D24) |
| R680 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R682 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R683 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R684 | 1-216-675-91 | METAL CHIP | 10K | 0.50% | 1/10W (D24) |
| R685 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W (D24) |
| R686 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W (D24) |
| R687 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W (D24) |
| R688 | 1-216-681-11 | METAL CHIP | 18K | 0.50% | 1/10W (D24) |
| R689 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W (D24) |
| R690 | 1-216-127-11 | RES,CHIP | 1.8M | 5% | 1/10W (D24) |
| R691 | 1-216-651-11 | METAL CHIP | 1K | 0.50% | 1/10W (D24) |
| R692 | 1-216-683-11 | METAL CHIP | 22K | 0.50% | 1/10W (D24) |
| R693 | 1-216-667-11 | METAL CHIP | 4.7K | 0.50% | 1/10W (D24) |
| R694 | 1-216-691-11 | METAL CHIP | 47K | 0.50% | 1/10W (D24) |
| R695 | 1-216-129-00 | RES,CHIP | 2.2M | 5% | 1/10W (D24) |
| R700 | 1-215-882-00 | METAL OXIDE | 22 | 5% | 2W F (D24) |
| R701 | 1-215-882-00 | METAL OXIDE | 22 | 5% | 2W F (D24) |
| R702 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F(D24) |
| R703 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W F (D24) |
| R704 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F (D24) |
| R705 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W F (D24) |
| R706 | 1-216-298-00 | RES,CHIP | 2.2 | 5% | 1/10W (D24) |
| R707 | 1-216-298-00 | RES,CHIP | 2.2 | 5% | 1/10W (D24) |
| R708 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R709 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R710 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R711 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R712 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R714 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R715 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R717 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R718 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F (D24) |
| R719 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F (D24) |
| R720 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R721 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R724 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R725 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R726 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F (D24) |
| R727 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R728 | 1-216-298-00 | RES,CHIP | 2.2 | 5% | 1/10W (D24) |
| R729 | 1-216-298-00 | RES,CHIP | 2.2 | 5% | 1/10W (D24) |
| R730 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F (D24) |
| R731 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R732 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R733 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F (D24) |
| R734 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F (D24) |
| R735 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F (D24) |
| R736 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W F (D24) |
| R737 | 1-215-882-00 | METAL OXIDE | 22 | 5% | 2W F (D24) |

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R738 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W F (D24) |
| R739 | 1-215-882-00 | METAL OXIDE | 22 | 5% | 2W F (D24) |
| R740 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W F (D24) |
| R741 | 1-215-859-00 | METAL OXIDE | 22 | 5% | 1W F (D24) |
| R742 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F(D24) |
| R743 | 1-249-383-11 | CARBON | 1.5 | 5% | 1/4W F(D24) |
| R760 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R761 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R762 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W (D24) |
| R763 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W (D24) |
| R764 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R765 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R766 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R767 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R768 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W (D24) |
| R769 | 1-216-033-00 | RES,CHIP | 220 | 5% | 1/10W (D24) |
| R770 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R771 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W (D24) |
| R772 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W (D24) |
| R773 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W (D24) |
| R774 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W (D24) |
| R775 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W (D24) |
| R776 | 1-216-679-11 | METAL CHIP | 15K | 0.50% | 1/10W (D24) |
| R801 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R802 | 1-216-295-91 | SHORT | 0 | | |
| R804 | 1-216-677-11 | METAL CHIP | 12K | 0.50% | 1/10W |
| R811 | 1-216-097-91 | RES,CHIP | 100K | 5% | 1/10W |
| R812 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R813 | 1-216-025-91 | RES,CHIP | 100 | 5% | 1/10W |
| R814 | 1-216-065-91 | RES,CHIP | 4.7K | 5% | 1/10W |
| R815 | 1-216-105-91 | RES,CHIP | 220K | 5% | 1/10W |
| R816 | 1-216-073-00 | RES,CHIP | 10K | 5% | 1/10W |
| R853 | 1-208-612-11 | METAL OXIDE | 10M | 5% | 1W (D24) |
| R901 | 1-215-902-11 | METAL OXIDE | 47K | 5% | 2W F |
| R902 | 1-215-902-11 | METAL OXIDE | 47K | 5% | 2W F |

<VARIABLE RESISTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| ⧓ RV501 | ⚠ | RES, ADJ, METAL GLAZE | |
| ⧓ RV503 | ⚠ | RES, ADJ, METAL GLAZE | |

<TRANSFORMER>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| T301 | 1-424-555-11 | TRANSFORMER, FERRITE (DFT) | |

<TEST PIN>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| TP600 | * 1-537-864-11 | PIN, POST (D24) | |
| TP601 | * 1-537-864-11 | PIN, POST (D24) | |
| TP602 | * 1-537-864-11 | PIN, POST (D24) | |

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## PC BOARD
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All the component parts on the PC board are supplied together when you order the FBT block assy.

<CAPACITOR>

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C801 | 1-137-150-11 | MYLAR | 0.01µF | 10% | 100V |
| C802 | 1-137-150-11 | MYLAR | 0.01µF | 10% | 100V |

<CONNECTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| CN801 | * 1-508-766-00 | PIN, CONNECTOR (5MM PITCH) 4P | |
| CN802 | 1-764-334-11 | PLUG, CONNECTOR 11P | |
| CN803 | * 1-573-986-11 | PIN, CONNECTOR (PC BOARD) 5P | |
| CN804 | * 1-691-135-11 | PIN, CONNECTOR (PC BOARD) 4P (D24) | |

<COMPOSITION CIRCUIT BLOCK>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| CP801 | 1-453-271-11 | RESISTER ASSY, HV (WF-722,HK) (D24) | |

<DIODE>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| D801 | 8-719-302-43 | DIODE EL1Z | |

<NEON LAMP>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| NL801 | 1-519-526-11 | LAMP, NEON | |
| NL802 | 1-519-526-11 | LAMP, NEON | |

<RESISTOR>

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R801 | 1-215-425-00 | METAL | 1.5K | 1% | 1/4W (D20) |
| R802 | 1-215-437-00 | METAL | 4.7K | 1% | 1/4W (D20) |
| R803 | 1-215-437-00 | METAL | 4.7K | 1% | 1/4W (D20) |
| R804 | 1-215-425-00 | METAL | 1.5K | 1% | 1/4W (D20) |
| R804 | 1-215-435-00 | METAL | 3.9K | 1% | 1/4W (D24) |
| R805 | 1-215-437-00 | METAL | 4.7K | 1% | 1/4W |
| R806 | 1-215-437-00 | METAL | 4.7K | 1% | 1/4W |
| R807 | 1-215-427-00 | METAL | 1.8K | 1% | 1/4W (D24) |
| R808 | 1-215-437-00 | METAL | 4.7K | 1% | 1/4W (D24) |
| R809 | 1-215-444-00 | METAL | 9.1K | 1% | 1/4W (D24) |
| R812 | 1-249-404-00 | CARBON | 82 | 5% | 1/4W F |

<TRANSFORMER>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| T801 | ⚠X-4033-492-1 | FBT ASSY, NX-4201 (D20) | |
| T801 | ⚠X-4560-170-1 | FBT ASSY, NX-4202 (D24) | |

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| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| | * A-1390-943-A | TA MOUNT<br>*********** | |

<CONNECTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| CN15 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN16 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN17 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN18 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN19 | 1-774-537-11 | CONNECTOR PIN (PC BOARD) 50P | |
| CN20 | 1-774-536-11 | CONNECTOR PIN (PC BOARD) 34P | |
| CN21 | * 1-564-507-11 | PLUG, CONNECTOR 4P | |
| CN22 | * 1-564-704-11 | PIN, CONNECTOR (SMALL TYPE) 2P | |
| CN23 | * 1-564-505-11 | PLUG, CONNECTOR 2P | |
| CN24 | * 1-564-506-11 | PLUG, CONNECTOR 3P | |
| CN25 | * 1-564-505-11 | PLUG, CONNECTOR 2P | |
| CN26 | * 1-564-507-11 | PLUG, CONNECTOR 4P | |
| CN27 | 1-774-525-11 | SOCKET,CONNECTOR 64P | |

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| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| | * A-1390-944-A | TB MOUNT<br>*********** | |

<CONNECTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| CN1 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN2 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN3 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN4 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN5 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN6 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN7 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN8 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN9 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN10 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN11 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN12 | 1-774-525-11 | SOCKET, CONNECTOR 64P | |
| CN13 | 1-774-537-11 | CONNECTOR PIN (PC BOARD) 50P | |
| CN14 | 1-774-535-11 | CONNECTOR PIN (PC BOARD) 26P | |

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| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| | * A-1373-746-A | YA MOUNT (D20) | |
| | * A-1373-753-A | YA MOUNT (D24)<br>***************** | |

<CONNECTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| CN101 | * 1-564-517-11 | PLUG, CONNECTOR 2P | |

<DIODE>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| D101 | 8-719-061-96 | DIODE SLR-325DCT31 | |
| D102 | 8-719-061-96 | DIODE SLR-325DCT31 | |
| D103 | 8-719-061-96 | DIODE SLR-325DCT31 | |
| D104 | 8-719-061-96 | DIODE SLR-325DCT31 | |
| D105 | 8-719-061-96 | DIODE SLR-325DCT31 | |
| D106 | 8-719-061-96 | DIODE SLR-325DCT31 (D24) | |
| D107 | 8-719-061-96 | DIODE SLR-325DCT31 (D24) | |
| D108 | 8-719-061-96 | DIODE SLR-325DCT31 (D24) | |
| D109 | 8-719-061-96 | DIODE SLR-325DCT31 (D24) | |

<RESISTOR>

| Ref.No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R101 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R102 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R103 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R104 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R105 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R106 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | (D24) |
| R107 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | (D24) |
| R108 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | (D24) |
| R109 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | (D24) |

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| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| | * A-1373-747-A | YB MOUNT (D20) | |
| | * A-1373-754-A | YB MOUNT (D24)<br>***************** | |

<CONNECTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| CN201 | * 1-564-519-11 | PLUG, CONNECTOR 4P (D24) | |

<DIODE>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| D201 | 8-719-061-96 | DIODE SLR-325DCT31 (D20) | |
| D201 | 8-719-060-27 | DIODE SLR-325MCT31 (D24) | |
| D202 | 8-719-053-43 | DIODE SLR-325VCT31 (D20) | |
| D202 | 8-719-061-96 | DIODE SLR-325DCT31 (D24) | |
| D203 | 8-719-060-27 | DIODE SLR-325MCT31 (D20) | |
| D203 | 8-719-053-43 | DIODE SLR-325VCT31 (D24) | |

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| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| | * A-1373-748-A | YC MOUNT (D20) | |
| | * A-1373-755-A | YC MOUNT (D24)<br>***************** | |

<CONNECTOR>

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| CN301 | * 1-564-724-11 | PIN, CONNECTOR (SMALL TYPE) 8P | |
| CN302 | 1-774-533-11 | SOCKET, SMALL TYPE DIN (8P) (D20) | |
| CN302 | 1-565-786-11 | SOCKET, DIN (SMALL TYPE) 8P (D24) | |

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MISCELLANEOUS
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| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| | ⚠1-223-417-11 | RESISTOR ASSY (HIGH-VOLTAGE) (D20) | |
| | ⚠1-411-657-11 | COIL, LANDING CORRECTION (D20) | |
| | ⚠1-411-659-21 | COIL, DEMAGNETIC (D20) | |
| | ⚠1-415-968-11 | COIL, LANDING CORRECTION (NS) (D24) | |
| | ⚠1-416-140-12 | COIL, LANDING CORRECTION (D24) | |
| | ⚠1-419-316-11 | COIL, DEGAUSSING (D24) | |
| | 1-452-032-00 | MAGNET, DISK : 10 mmϕ | |
| | 1-452-094-00 | MAGNET, ROTATABLE DISK : 15 mmϕ | |
| | ⚠1-452-912-31 | NECK ASSEMBLY (NA2914) (D24) | |
| | 1-533-702-11 | HOLDER, FUSE | |
| F1 | ⚠1-576-231-11 | FUSE (H.B.C.) 4A/250V | |
| | 1-900-214-33 | LEAD ASSY, FOCUS (D20) | |
| | ⚠8-451-510-11 | DY Y24TXD-M (D24) | |
| | ⚠8-451-513-11 | DY Y20MTD-M (D20) | |
| | ⚠8-453-003-11 | NA3012(M) (D20) | |

**YC**

| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| V901 | ⚠8-733-006-05 | PICTURE TUBE M57LRX20X (U/C, D24) | |
| V901 | ⚠8-736-375-05 | PICTURE TUBE M49LCB20X (U/C, D20) | |
| V901 | ⚠8-733-005-05 | PICTURE TUBE M57LRX21X<br>(AUS, AEP, D24) | |
| V901 | ⚠8-736-374-05 | PICTURE TUBE M49LCB21X<br>(AUS, AEP, D20) | |

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ACCESSORIES
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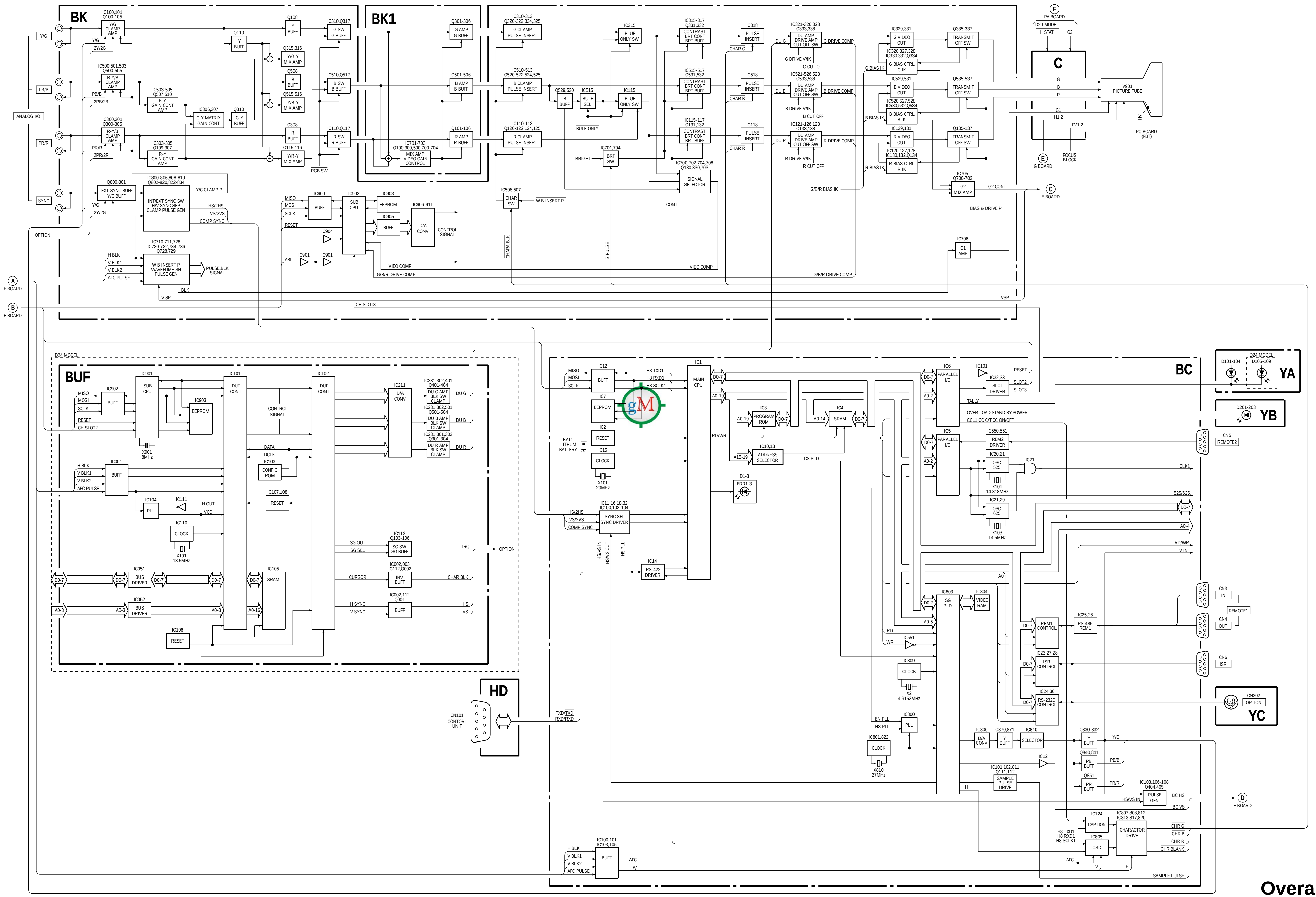
| Ref.No. | Part No. | Description | Remark |
|---|---|---|---|
| | X-4033-112-1 | MASK (4:3) ASSY (D20) | |
| | ⚠1-534-827-14 | CORD, POWER 10A/125V (U/C) | |
| | ⚠1-576-231-11 | FUSE (H.B.C.) 4A/250V | |
| | ⚠1-590-151-11 | CORD, SET POWER 10A/250V (AEP, AUS) | |
| | 2-990-242-01 | HOLDER (B), PLUG | |
| | 3-867-719-11 | MANUAL, OPERATION (ENGLISH) | |
| | 4-051-484-01 | LABEL, TALLY (D20) | |
| | * 4-058-814-01 | HOLDER (D20) | |
| | 4-072-655-01 | CARD, QUICK REFERENCE | |

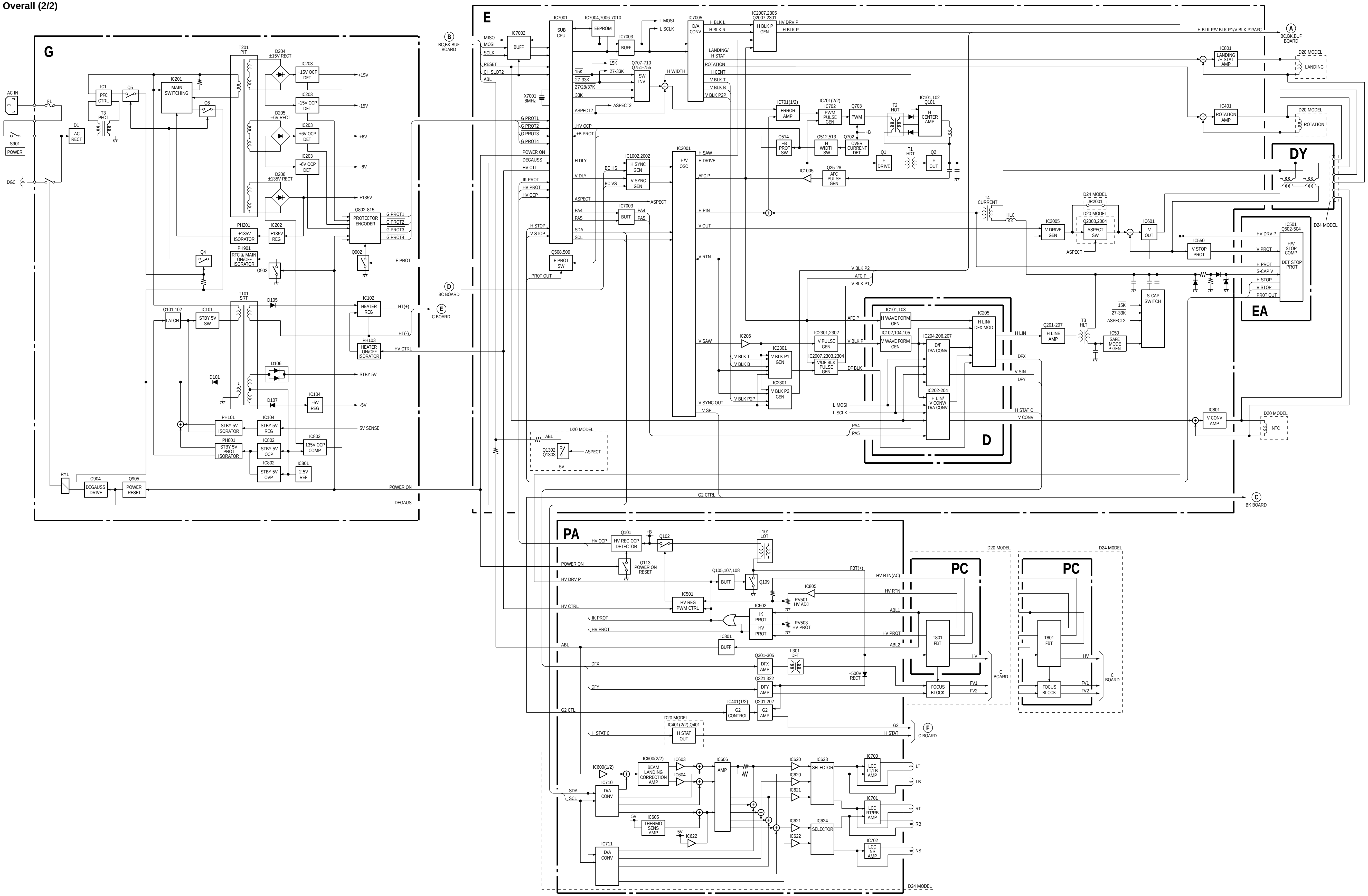
# Section 10
# Block Diagrams

Overall (1/2)


BK
BK1
BUF
HD
BC
YA
YB
YC
C
ANALOG I/O
Y/G
PB/B
PR/R
SYNC
OPTION
A
E BOARD
B
E BOARD
C
E BOARD
D
E BOARD
E
G BOARD
F
PA BOARD
D20 MODEL
H STAT
G2
D24 MODEL
V901
PICTURE TUBE
PC BOARD
(FBT)
FOCUS
BLOCK
Y/G CLAMP AMP
B-Y/B CLAMP AMP
R-Y/B CLAMP AMP
EXT SYNC BUFF
Y/G BUFF
INT/EXT SYNC SW
H/V SYNC SEP
CLAMP PULSE GEN
W B INSERT P
WAVEFOME SH
PULSE GEN
PULSE,BLK
SIGNAL
B-Y GAIN CONT AMP
R-Y GAIN CONT AMP
G-Y MATRIX
GAIN CONT
Y BUFF
G-Y BUFF
Y/G-Y MIX AMP
Y/B-Y MIX AMP
Y/R-Y MIX AMP
G SW
G BUFF
B SW
B BUFF
R SW
R BUFF
RGB SW
MIX AMP
VIDEO GAIN
CONTROL
G AMP
G BUFF
B AMP
B BUFF
R AMP
R BUFF
G CLAMP
PULSE INSERT
B CLAMP
PULSE INSERT
R CLAMP
PULSE INSERT
BULE SEL
BULE ONLY
BLUE ONLY SW
BRT SW
BRIGHT
CONTRAST
BRT CONT
BRT BUFF
PULSE INSERT
SIGNAL SELECTOR
CONT
DU AMP
DRIVE AMP
CUT OFF SW
G DRIVE COMP
B DRIVE COMP
R DRIVE COMP
G VIDEO OUT
B VIDEO OUT
R VIDEO OUT
G BIAS CTRL
B BIAS CTRL
R BIAS CTRL
TRANSMIT OFF SW
G2 MIX AMP
G2 CONT
BIAS & DRIVE P
G1 AMP
CHAR SW
W B INSERT P-
CHARA BLK
S PULSE
VIEO COMP
G/B/R DRIVE COMP
G/B/R BIAS IK
VSP
V SP
BLK
CH SLOT3
MISO
MOSI
SCLK
RESET
BUFF
SUB CPU
EEPROM
D/A CONV
CONTROL SIGNAL
ABL
SUB CPU
X901
8MHz
DUF CONT
CONTROL SIGNAL
D/A CONV
DU G AMP BLK SW CLAMP
DU B AMP BLK SW CLAMP
DU R AMP BLK SW CLAMP
CONFIG ROM
RESET
PLL
CLOCK
X101
13.5MHz
BUS DRIVER
SRAM
SG SW
SG BUFF
INV BUFF
CURSOR
CHAR BLK
H SYNC
V SYNC
IRQ
OPTION
CN101
CONTOL
CONTROL UNIT
TXD/TXD
RXD/RXD
MAIN CPU
H8 TXD1
H8 RXD1
H8 SCLK1
BAT1
LITHUM
BATTERY
X101
20MHz
PROGRAM ROM
SRAM
ADDRESS SELECTOR
CS PLD
ERR1-3
SYNC SEL
SYNC DRIVER
HS/2HS
VS/2VS
COMP SYNC
RS-422 DRIVER
PARALLEL I/O
SLOT DRIVER
SLOT2
SLOT3
TALLY
OVER LOAD,STAND BY,POWER
CCL1,CC C/T,CC ON/OFF
REM2 DRIVER
OSC 525
OSC 625
X101
14.318MHz
X103
14.5MHz
CLK1
525/625
SG PLD
VIDEO RAM
REM1 CONTROL
RS-485 REM1
ISR CONTROL
RS-232C CONTROL
CN3 IN
CN4 OUT
REMOTE1
CN5 REMOTE2
CN6 ISR
CN302 OPTION
CLOCK
X2
4.9152MHz
PLL
EN PLL
HS PLL
X810
27MHz
D/A CONV
Y BUFF
SELECTOR
PB BUFF
PR BUFF
SAMPLE PULSE DRIVE
PULSE GEN
BC HS
BC VS
CAPTION
OSD
CHARACTOR DRIVE
CHR G
CHR B
CHR R
CHR BLANK
SAMPLE PULSE
AFC
H/V
H BLK
V BLK1
V BLK2
AFC PULSE

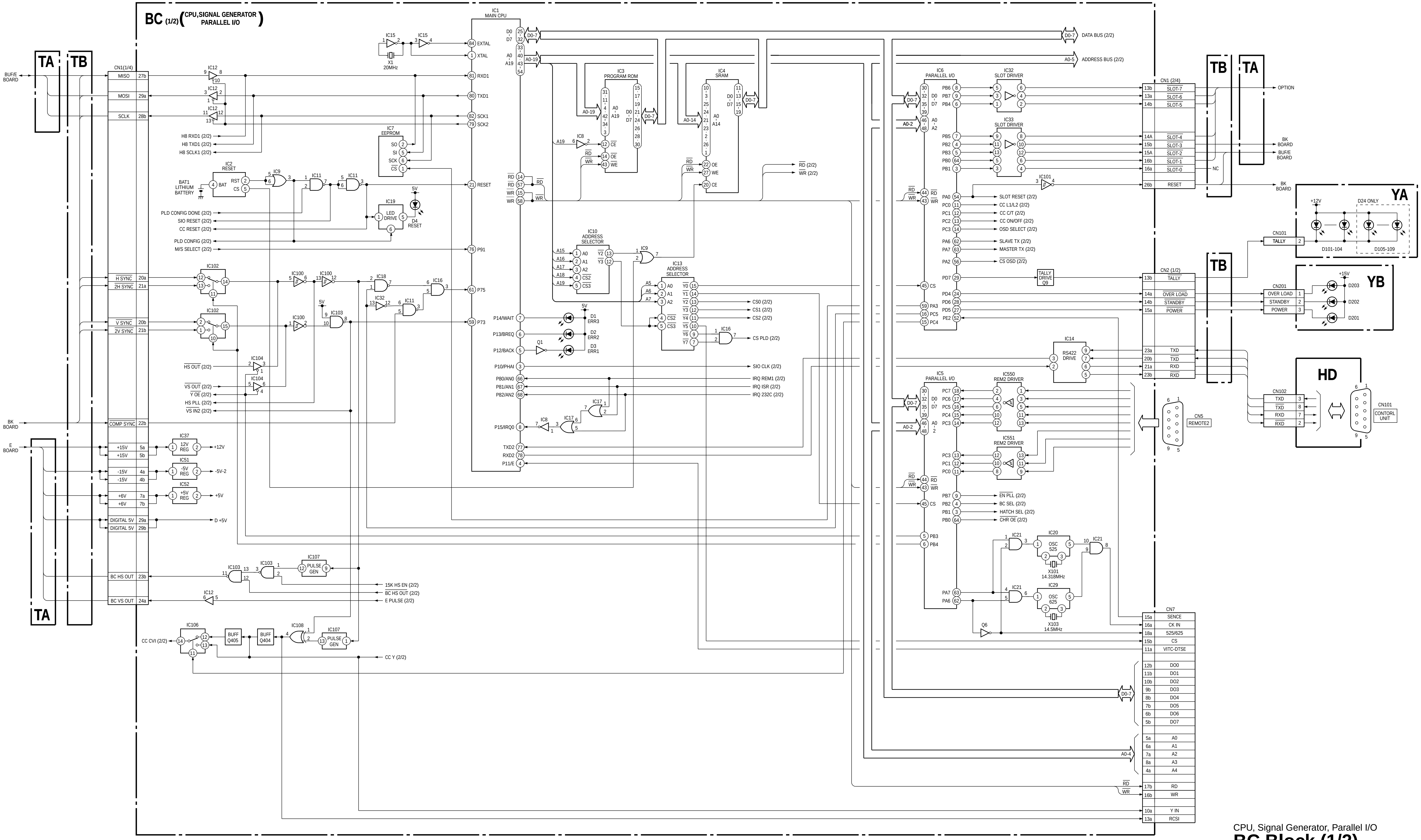
Overall (1/2)

## Overall (2/2)


G
E
PA
DY
EA
D
PC
PC
AC IN
F1
S901
POWER
DGC
D1
AC RECT
IC1
PFC CTRL
T3
PFCT
Q5
IC201
MAIN SWITCHING
Q6
T201
PIT
D204
±15V RECT
D205
±6V RECT
D206
±135V RECT
IC203
+15V OCP DET
-15V OCP DET
+6V OCP DET
-6V OCP DET
+15V
-15V
+6V
-6V
+135V
Q802-815
PROTECTOR ENCODER
G PROT1
G PROT2
G PROT3
G PROT4
PH201
+135V ISORATOR
IC202
+135V REG
PH901
RFC & MAIN ON/OFF ISORATOR
Q4
Q903
Q902
E PROT
T101
SRT
D105
Q101,102
LATCH
IC101
STBY 5V SW
IC102
HEATER REG
HT(+)
HT(-)
PH103
HEATER ON/OFF ISORATOR
HV CTRL
D106
STBY 5V
D101
D107
IC104
-5V REG
-5V
PH101
STBY 5V ISORATOR
IC104
STBY 5V REG
5V SENSE
PH801
STBY 5V PROT ISORATOR
IC802
STBY 5V OCP
IC802
135V OCP COMP
IC802
STBY 5V OVP
IC801
2.5V REF
RY1
Q904
DEGAUSS DRIVE
Q905
POWER RESET
POWER ON
DEGAUS
B
BC,BK,BUF BOARD
MISO
MOSI
SCLK
RESET
CH SLOT2
ABL
IC7002
BUFF
IC7001
SUB CPU
X7001 8MHz
IC7004,7006-7010
EEPROM
IC7003
BUFF
L MOSI
L SCLK
IC7005
D/A CONV
H BLK L
H BLK R
LANDING/ H STAT
ROTATION
H CENT
V BLK T
V BLK B
V BLK P2P
H WIDTH
Q707-710 Q751-755
SW INV
15K
27-33K
27/28/37K
33K
ASPECT2
G PROT1
G PROT2
G PROT3
G PROT4
HV OCP
+B PROT
POWER ON
DEGAUSS
HV CTL
IK PROT
HV PROT
HV OCP
H STOP
V STOP
H DLY
V DLY
ASPECT
PA4
PA5
SDA
SCL
IC1002,2002
BC HS
H SYNC GEN
BC VS
V SYNC GEN
IC7003
BUFF
Q508,509
E PROT SW
PROT OUT
D
BC BOARD
E
C BOARD
IC2001
H/V OSC
H SAW
H DRIVE
AFC P
H PIN
V OUT
V RTN
V SAW
V SYNC OUT
V SP
IC2007,2305 Q2007,2301
H BLK P GEN
HV DRV P
H BLK P
H BLK P/V BLK P1/V BLK P2/AFC
A
BC,BK,BUF BOARD
IC701(1/2)
ERROR AMP
IC701(2/2) IC702
PWM PULSE GEN
Q703
PWM
+B
T2
HOT
IC101,102 Q101
H CENTER AMP
Q514
+B PROT SW
Q512,513
H WIDTH SW
Q702
OVER CURRENT DET
Q1
H DRIVE
T1
HDT
Q2
H OUT
IC1005
Q25-28
AFC PULSE GEN
IC801
LANDING /H STAT AMP
D20 MODEL
LANDING
IC401
ROTATION AMP
ROTATION
T4
CURRENT
HLC
D24 MODEL
JR2001
D20 MODEL
Q2003,2004
ASPECT SW
IC2005
V DRIVE GEN
IC601
V OUT
IC550
V STOP PROT
ASPECT
IC501 Q502-504
H/V STOP COMP
DET STOP PROT
D24 MODEL
HV DRV P
V PROT
H PROT
S-CAP V
H STOP
V STOP
PROT OUT
S-CAP SWITCH
V BLK P2
AFC P
V BLK P1
IC101,103
H WAVE FORM GEN
IC205
H LIN/ DFX MOD
H LIN
Q201-207
H LINE AMP
T3
HLT
IC50
SAFE MODE P GEN
15K
27-33K
ASPECT2
IC206
IC2301
V BLK P1 GEN
IC2301
V BLK P2 GEN
V BLK T
V BLK B
V BLK P2P
IC2301,2302
V PULSE GEN
IC2007,2303,2304
V/DF BLK PULSE GEN
DF BLK
IC102,104,105
V WAVE FORM GEN
IC204,206,207
D/F D/A CONV
IC202-204
H LIN/ V CONV/ D/A CONV
DFX
V SIN
DFY
H STAT C
V CONV
L MOSI
L SCLK
PA4
PA5
IC801
V CONV AMP
D20 MODEL
NTC
G2 CTRL
C
BK BOARD
ABL
D20 MODEL
Q1302 Q1303
ASPECT
-5V
HV OCP
Q101
HV REG OCP DETECTOR
+B
Q102
L101
LOT
POWER ON
Q113
POWER ON RESET
HV DRV P
Q105,107,108
BUFF
Q109
FBT(+)
IC805
RV501
HV ADJ
HV CTRL
IC501
HV REG PWM CTRL
IK PROT
HV PROT
IC502
IK PROT
HV PROT
RV503
HV PROT
ABL
IC801
BUFF
HV RTN(AC)
HV RTN
ABL1
HV PROT
ABL2
D20 MODEL
D24 MODEL
T801
FBT
HV
FOCUS BLOCK
FV1
FV2
C BOARD
DFX
Q301-305
DFX AMP
L301
DFT
+500V RECT
DFY
Q321,322
DFY AMP
G2 CTL
IC401(1/2)
G2 CONTROL
Q201,202
G2 AMP
G2
F
C BOARD
H STAT C
D20 MODEL
IC401(2/2),Q401
H STAT OUT
H STAT
IC600(1/2)
IC600(2/2)
BEAM LANDING CORRECTION AMP
IC603
IC604
IC606
AMP
IC620
IC621
IC622
IC623
SELECTOR
IC624
SELECTOR
IC700
LCC LT/LB AMP
IC701
LCC RT/RB AMP
IC702
LCC NS AMP
LT
LB
RT
RB
NS
SDA
SCL
IC710
D/A CONV
IC711
D/A CONV
5V
IC605
THERMO SENS AMP
D24 MODEL

Overall (2/2)

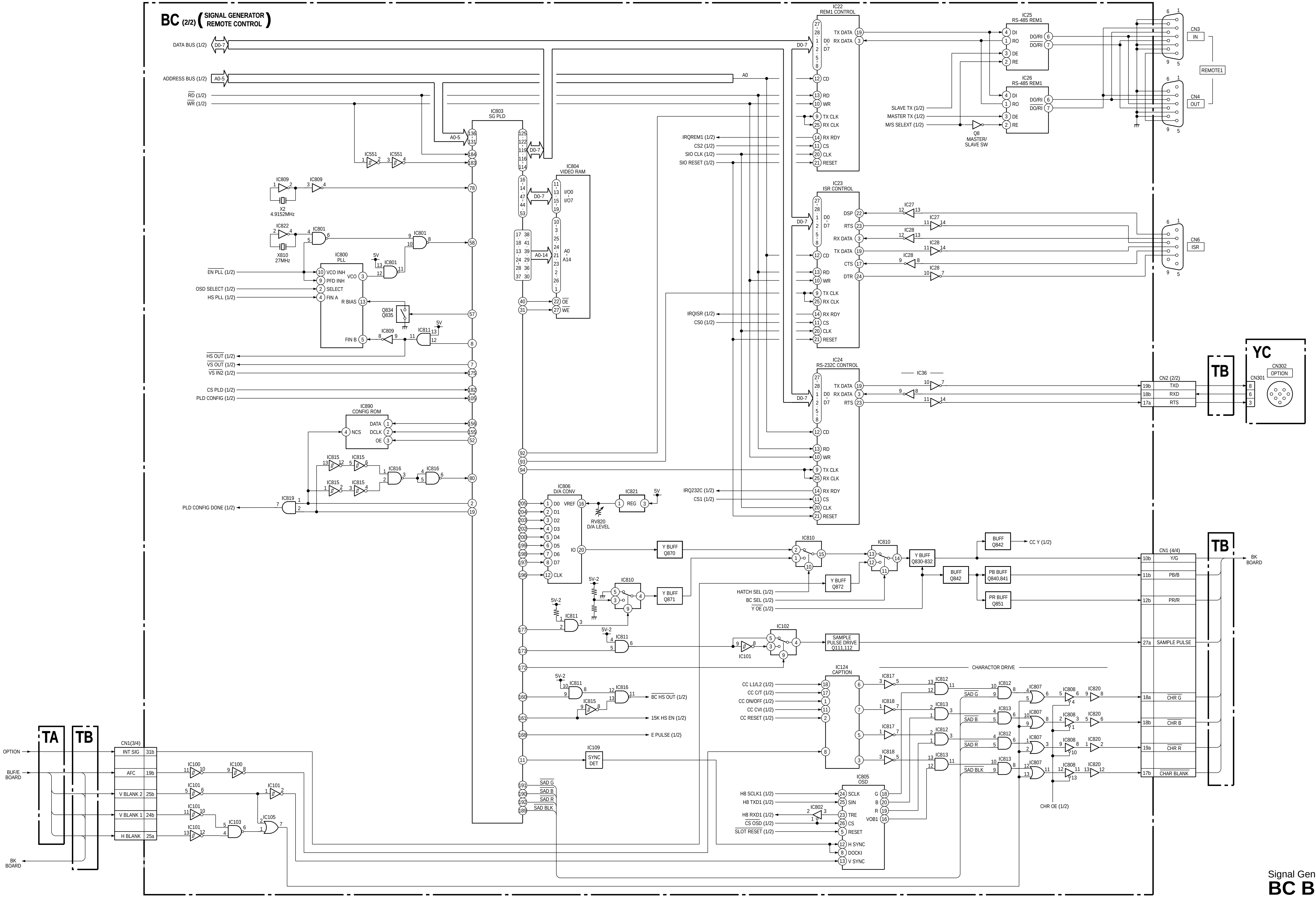
## BC Block (1/2)


BC (1/2) (CPU,SIGNAL GENERATOR PARALLEL I/O)
TA
TB
YA
YB
HD
BUF/E BOARD
BK BOARD
E BOARD
OPTION
CN1(1/4)
MISO
MOSI
SCLK
H SYNC
2H SYNC
V SYNC
2V SYNC
COMP SYNC
+15V
-15V
+6V
DIGITAL 5V
BC HS OUT
BC VS OUT
IC1 MAIN CPU
EXTAL
XTAL
RXD1
TXD1
SCK1
SCK2
RESET
P91
P75
P73
P14/WAIT
P13/BREQ
P12/BACK
P10/PHAI
P80/AN0
P81/AN1
P82/AN2
P15/IRQ0
TXD2
RXD2
P11/E
X1 20MHz
IC2 RESET
BAT1 LITHIUM BATTERY
IC7 EEPROM
IC19 LED DRIVE
D4 RESET
IC102
IC100
IC103
IC104
IC18
IC16
IC32
IC11
IC37 12V REG
IC51 -5V REG
IC52 +5V REG
+12V
-5V-2
+5V
D +5V
IC107 PULSE GEN
IC106
BUFF Q405
BUFF Q404
IC108
15K HS EN (2/2)
BC HS OUT (2/2)
E PULSE (2/2)
CC Y (2/2)
CC CVI (2/2)
H8 RXD1 (2/2)
H8 TXD1 (2/2)
H8 SCLK1 (2/2)
PLD CONFIG DONE (2/2)
SIO RESET (2/2)
CC RESET (2/2)
PLD CONFIG (2/2)
M/S SELECT (2/2)
HS OUT (2/2)
VS OUT (2/2)
Y OE (2/2)
HS PLL (2/2)
VS IN2 (2/2)
DATA BUS (2/2)
ADDRESS BUS (2/2)
IC3 PROGRAM ROM
IC4 SRAM
IC8
IC9
IC10 ADDRESS SELECTOR
IC13 ADDRESS SELECTOR
CS0 (2/2)
CS1 (2/2)
CS2 (2/2)
CS PLD (2/2)
SIO CLK (2/2)
IRQ REM1 (2/2)
IRQ ISR (2/2)
IRQ 232C (2/2)
RD (2/2)
WR (2/2)
D1 ERR3
D2 ERR2
D3 ERR1
Q1
IC17
IC6 PARALLEL I/O
IC32 SLOT DRIVER
IC33 SLOT DRIVER
IC101
SLOT RESET (2/2)
CC L1/L2 (2/2)
CC C/T (2/2)
CC ON/OFF (2/2)
OSD SELECT (2/2)
SLAVE TX (2/2)
MASTER TX (2/2)
CS OSD (2/2)
TALLY DRIVE Q9
IC14 RS422 DRIVE
IC5 PARALLEL I/O
IC550 REM2 DRIVER
IC551 REM2 DRIVER
EN PLL (2/2)
BC SEL (2/2)
HATCH SEL (2/2)
CHR OE (2/2)
IC20 OSC 525
X101 14.318MHz
IC29 OSC 625
X103 14.5MHz
IC21
Q6
CN1 (2/4)
SLOT-7
SLOT-6
SLOT-5
SLOT-4
SLOT-3
SLOT-2
SLOT-1
SLOT-0
NC
CN2 (1/2)
TALLY
OVER LOAD
STANDBY
POWER
TXD
RXD
CN101
D101-104
D105-109
D24 ONLY
+15V
D201
D202
D203
CN201
CN5 REMOTE2
CN102
CN101 CONTORL UNIT
CN7
SENCE
CK IN
525/625
CS
VITC-DTSE
DO0
DO1
DO2
DO3
DO4
DO5
DO6
DO7
A0
A1
A2
A3
A4
RD
WR
Y IN
RCSI

CPU, Signal Generator, Parallel I/O

## BC Block (1/2)

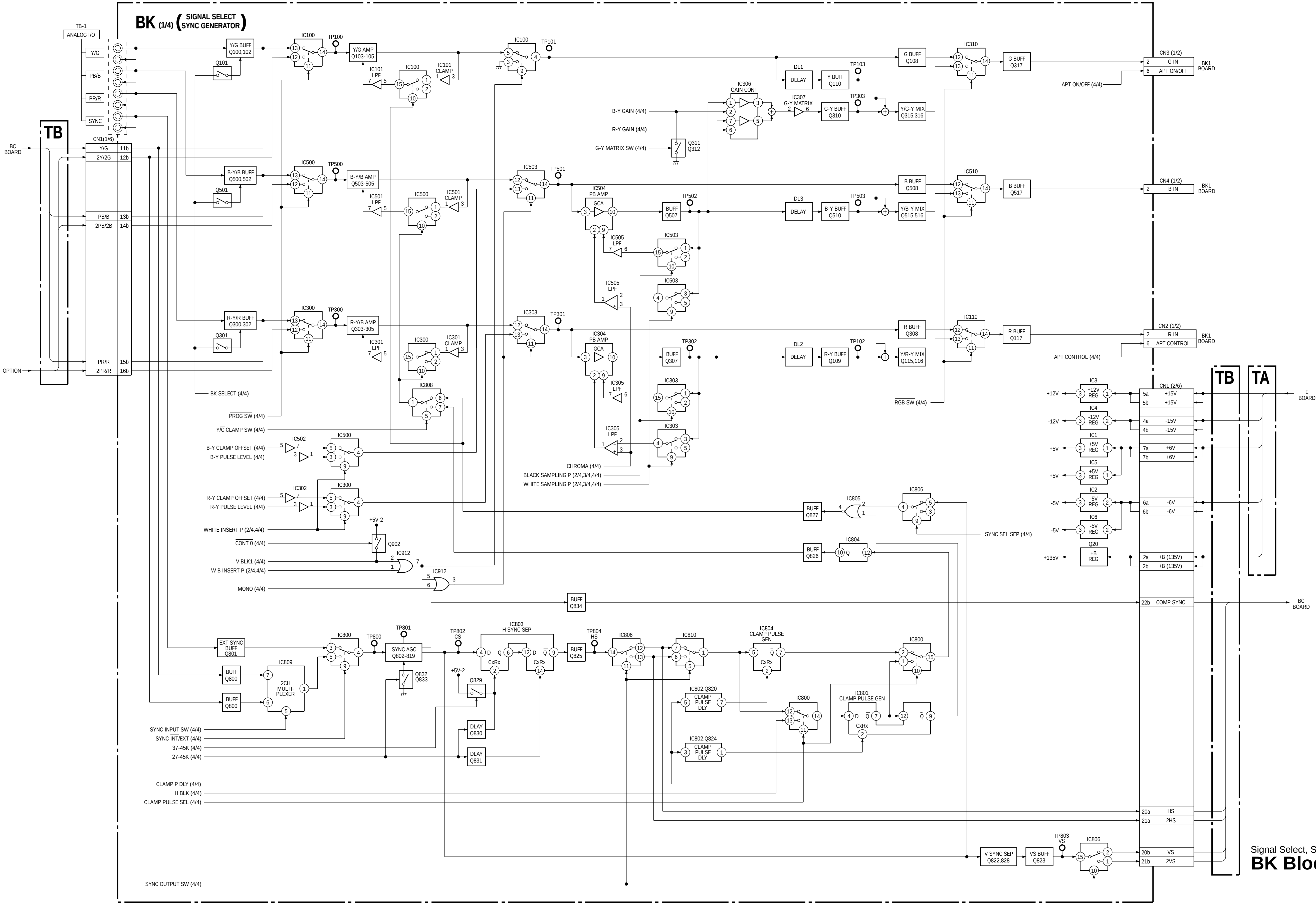
**BC Block (2/2)**


BC (2/2) ( SIGNAL GENERATOR REMOTE CONTROL )
DATA BUS (1/2)
D0-7
ADDRESS BUS (1/2)
A0-5
RD (1/2)
WR (1/2)
IC803 SG PLD
IC804 VIDEO RAM
IC551
IC809
X2 4.9152MHz
IC822
IC801
X810 27MHz
IC800 PLL
VCO INH
PFD INH
SELECT
FIN A
R BIAS
FIN B
VCO
EN PLL (1/2)
OSD SELECT (1/2)
HS PLL (1/2)
Q834 Q835
IC811
HS OUT (1/2)
VS OUT (1/2)
VS IN2 (1/2)
CS PLD (1/2)
PLD CONFIG (1/2)
IC890 CONFIG ROM
DATA
DCLK
OE
NCS
IC815
IC816
IC819
PLD CONFIG DONE (1/2)
I/O0
I/O7
A0
A14
OE
WE
A0-14
IC22 REM1 CONTROL
TX DATA
RX DATA
CD
RD
WR
TX CLK
RX CLK
RX RDY
CS
CLK
RESET
IRQREM1 (1/2)
CS2 (1/2)
SIO CLK (1/2)
SIO RESET (1/2)
IC25 RS-485 REM1
IC26 RS-485 REM1
DI
RO
DE
RE
DO/RI
SLAVE TX (1/2)
MASTER TX (1/2)
M/S SELEXT (1/2)
Q8 MASTER/ SLAVE SW
CN3 IN
CN4 OUT
REMOTE1
IC23 ISR CONTROL
DSP
RTS
CTS
DTR
IC27
IC28
CN6 ISR
IRQISR (1/2)
CS0 (1/2)
IC24 RS-232C CONTROL
IC36
IRQ232C (1/2)
CS1 (1/2)
CN2 (2/2)
TXD
RXD
RTS
TB
YC
CN301
CN302 OPTION
IC806 D/A CONV
VREF
IC821 REG
5V
RV820 D/A LEVEL
Y BUFF Q870
Y BUFF Q871
Y BUFF Q872
Y BUFF Q830-832
IC810
BUFF Q842
CC Y (1/2)
PB BUFF Q840,841
PR BUFF Q851
HATCH SEL (1/2)
BC SEL (1/2)
Y OE (1/2)
5V-2
IC102
IC101
SAMPLE PULSE DRIVE Q111,112
CN1 (4/4)
Y/G
PB/B
PR/R
SAMPLE PULSE
CHR G
CHR B
CHR R
CHAR BLANK
BK BOARD
CHARACTOR DRIVE
IC124 CAPTION
CC L1/L2 (1/2)
CC C/T (1/2)
CC ON/OFF (1/2)
CC CVI (1/2)
CC RESET (1/2)
IC817
IC818
IC812
IC813
IC807
IC808
IC820
SAD G
SAD B
SAD R
SAD BLK
CHR OE (1/2)
BC HS OUT (1/2)
15K HS EN (1/2)
E PULSE (1/2)
IC109 SYNC DET
IC805 OSD
H8 SCLK1 (1/2)
H8 TXD1 (1/2)
H8 RXD1 (1/2)
CS OSD (1/2)
SLOT RESET (1/2)
IC802
SCLK
SIN
TRE
CS
RESET
H SYNC
DOCKI
V SYNC
VOB1
TA
TB
CN1(3/4)
OPTION
BUF/E BOARD
INT SIG
AFC
V BLANK 2
V BLANK 1
H BLANK
IC100
IC103
IC105

Signal Generator, Remote Control

## BC Block (2/2)

BK Block (1/4)

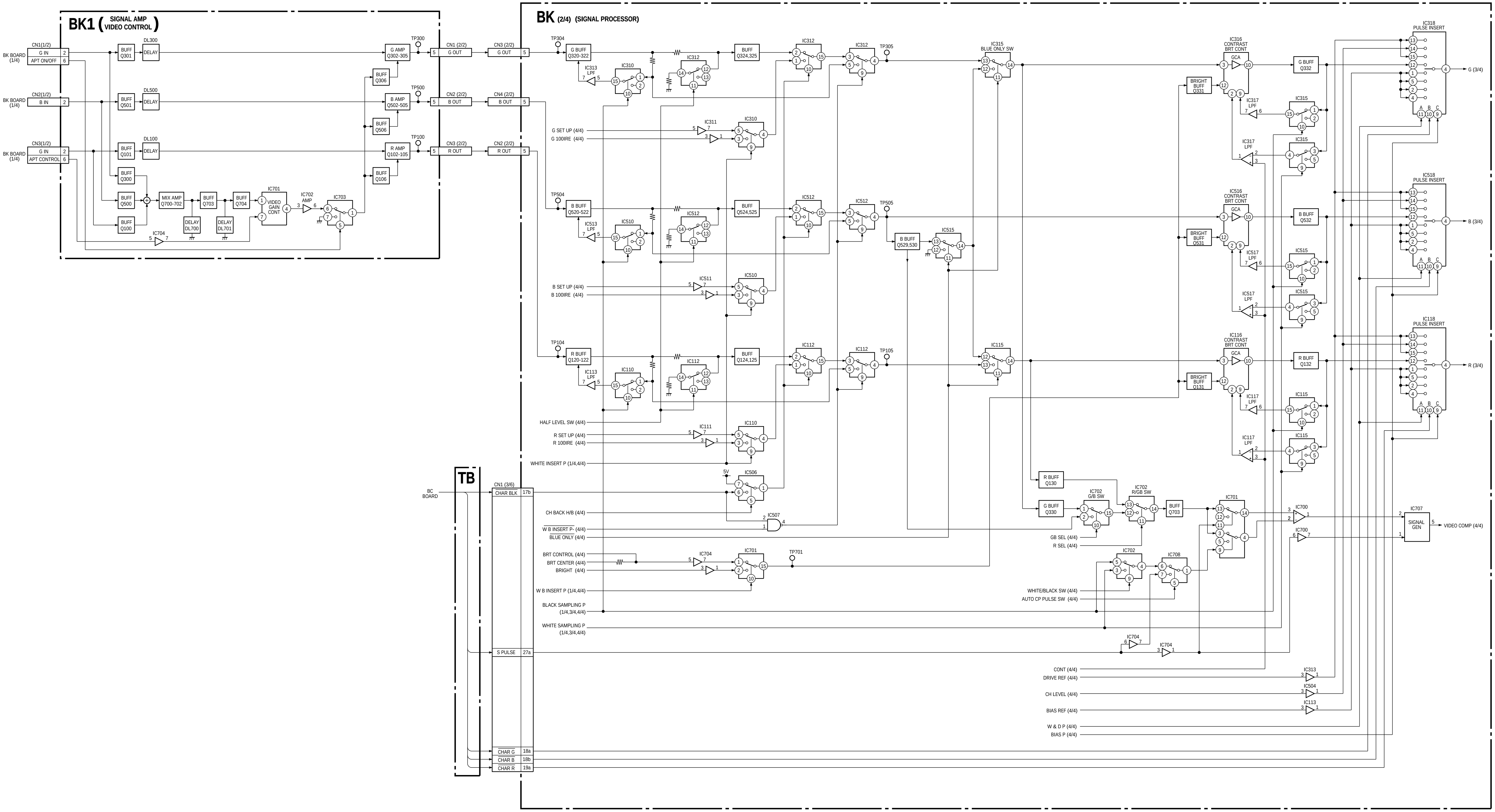

BK (1/4) (SIGNAL SELECT SYNC GENERATOR)
TB-1
ANALOG I/O
Y/G
PB/B
PR/R
SYNC
TB
TA
BC BOARD
OPTION
CN1(1/6)
Y/G 11b
2Y/2G 12b
PB/B 13b
2PB/2B 14b
PR/R 15b
2PR/R 16b
Y/G BUFF Q100,102
Q101
IC100
TP100
Y/G AMP Q103-105
IC101 LPF
IC101 CLAMP
TP101
B-Y/B BUFF Q500,502
Q501
IC500
TP500
B-Y/B AMP Q503-505
IC501 LPF
IC501 CLAMP
IC503
TP501
R-Y/R BUFF Q300,302
Q301
IC300
TP300
R-Y/B AMP Q303-305
IC301 LPF
IC301 CLAMP
IC303
TP301
IC808
BK SELECT (4/4)
PROG SW (4/4)
Y/C CLAMP SW (4/4)
IC502
B-Y CLAMP OFFSET (4/4)
B-Y PULSE LEVEL (4/4)
IC302
R-Y CLAMP OFFSET (4/4)
R-Y PULSE LEVEL (4/4)
WHITE INSERT P (2/4,4/4)
+5V-2
CONT 0 (4/4)
Q902
IC912
V BLK1 (4/4)
W B INSERT P (2/4,4/4)
MONO (4/4)
B-Y GAIN (4/4)
R-Y GAIN (4/4)
G-Y MATRIX SW (4/4)
Q311 Q312
IC306 GAIN CONT
IC307 G-Y MATRIX
DL1
DELAY
Y BUFF Q110
TP103
TP303
G-Y BUFF Q310
G BUFF Q108
Y/G-Y MIX Q315,316
IC310
G BUFF Q317
CN3 (1/2)
2 G IN
6 APT ON/OFF
BK1 BOARD
APT ON/OFF (4/4)
IC504 PB AMP
GCA
TP502
BUFF Q507
IC505 LPF
DL3
B-Y BUFF Q510
TP503
B BUFF Q508
Y/B-Y MIX Q515,516
IC510
B BUFF Q517
CN4 (1/2)
2 B IN
IC304 PB AMP
TP302
BUFF Q307
IC305 LPF
DL2
R-Y BUFF Q109
TP102
R BUFF Q308
Y/R-Y MIX Q115,116
IC110
R BUFF Q117
CN2 (1/2)
2 R IN
6 APT CONTROL
APT CONTROL (4/4)
RGB SW (4/4)
CHROMA (4/4)
BLACK SAMPLING P (2/4,3/4,4/4)
WHITE SAMPLING P (2/4,3/4,4/4)
BUFF Q827
IC805
IC806
SYNC SEL SEP (4/4)
BUFF Q826
IC804
BUFF Q834
EXT SYNC BUFF Q801
BUFF Q800
IC809
2CH MULTI-PLEXER
IC800
TP800
TP801
SYNC AGC Q802-819
Q832 Q833
TP802 CS
IC803 H SYNC SEP
CxRx
+5V-2
Q829
DLAY Q830
DLAY Q831
TP804 HS
BUFF Q825
IC810
IC804 CLAMP PULSE GEN
IC802,Q820 CLAMP PULSE DLY
IC802,Q824 CLAMP PULSE DLY
IC801 CLAMP PULSE GEN
SYNC INPUT SW (4/4)
SYNC INT/EXT (4/4)
37-45K (4/4)
27-45K (4/4)
CLAMP P DLY (4/4)
H BLK (4/4)
CLAMP PULSE SEL (4/4)
SYNC OUTPUT SW (4/4)
V SYNC SEP Q822,828
VS BUFF Q823
TP803 VS
IC3 +12V REG
IC4 -12V REG
IC1 +5V REG
IC5 +5V REG
IC2 -5V REG
IC6 -5V REG
Q20 +B REG
+12V
-12V
+5V
-5V
+135V
CN1 (2/6)
5a +15V
5b +15V
4a -15V
4b -15V
7a +6V
7b +6V
6a -6V
6b -6V
2a +B (135V)
2b +B (135V)
22b COMP SYNC
20a HS
21a 2HS
20b VS
21b 2VS
E BOARD
BC BOARD

Signal Select, Sync Generator

## BK Block (1/4)

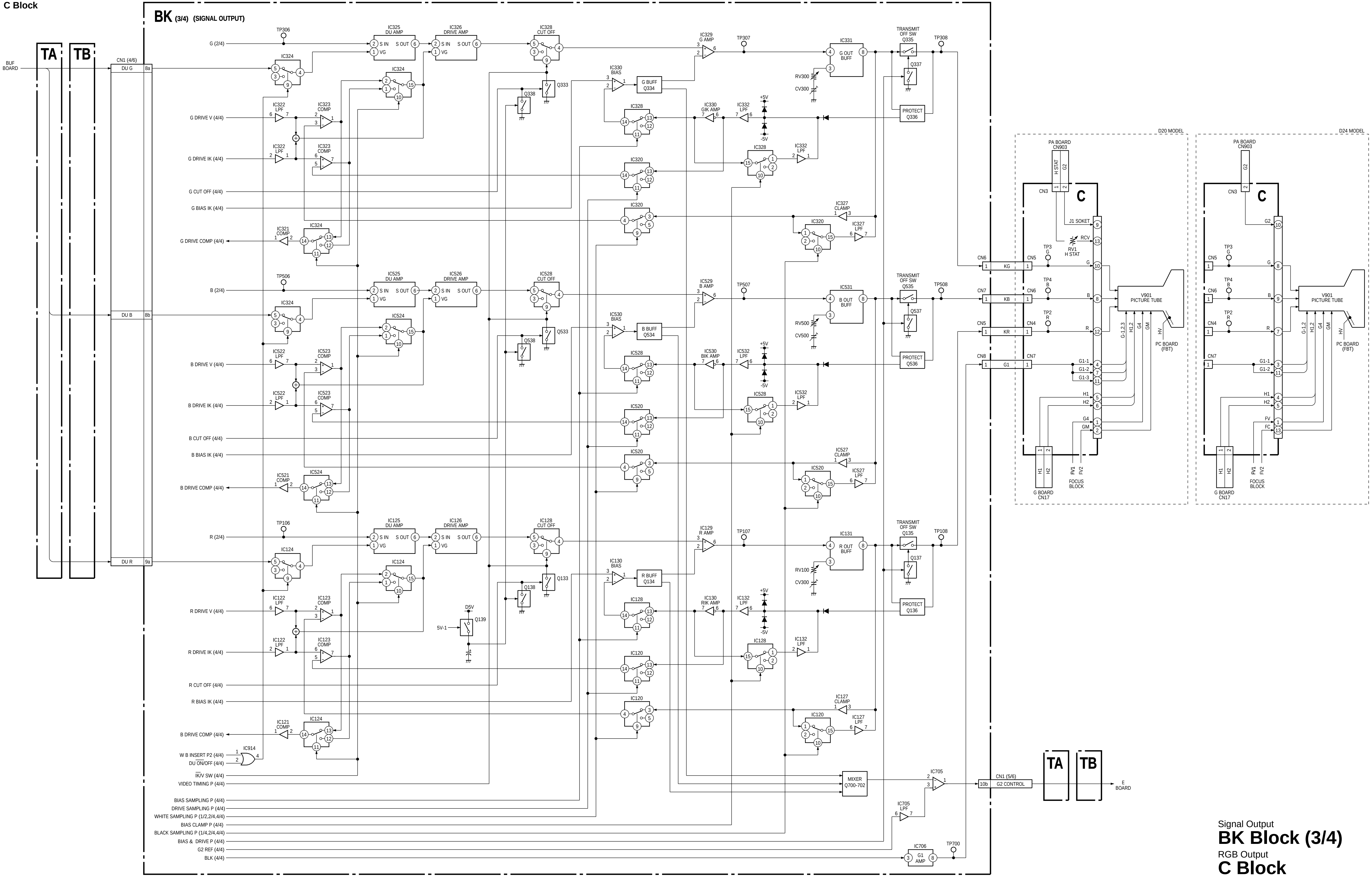
http://getMANUAL.com

## BK Block (2/4)
## BK1 Block


BK1 ( SIGNAL AMP VIDEO CONTROL )
BK (2/4) (SIGNAL PROCESSOR)
TB
BK BOARD (1/4)
CN1(1/2)
G IN
APT ON/OFF
CN2(1/2)
B IN
CN3(1/2)
APT CONTROL
BUFF Q301
BUFF Q501
BUFF Q101
BUFF Q300
BUFF Q500
BUFF Q100
DL300
DL500
DL100
DELAY
MIX AMP Q700-702
BUFF Q703
BUFF Q704
DELAY DL700
DELAY DL701
IC701 VIDEO GAIN CONT
IC702 AMP
IC703
IC704
G AMP Q302-305
B AMP Q502-505
R AMP Q102-105
BUFF Q306
BUFF Q506
BUFF Q106
TP300
TP500
TP100
CN1 (2/2) G OUT
CN2 (2/2) B OUT
CN3 (2/2) R OUT
CN3 (2/2) G OUT
CN4 (2/2) B OUT
CN2 (2/2) R OUT
TP304
G BUFF Q320-322
IC313 LPF
IC310
IC312
BUFF Q324,325
TP305
IC315 BLUE ONLY SW
IC311
G SET UP (4/4)
G 100IRE (4/4)
TP504
B BUFF Q520-522
IC513 LPF
IC510
IC512
BUFF Q524,525
TP505
B BUFF Q529,530
IC515
IC511
B SET UP (4/4)
B 100IRE (4/4)
TP104
R BUFF Q120-122
IC113 LPF
IC110
IC112
BUFF Q124,125
TP105
IC115
IC111
HALF LEVEL SW (4/4)
R SET UP (4/4)
R 100IRE (4/4)
WHITE INSERT P (1/4,4/4)
5V
IC506
BC BOARD
CN1 (3/6)
CHAR BLK 17b
CH BACK H/B (4/4)
IC507
W B INSERT P- (4/4)
BLUE ONLY (4/4)
BRT CONTROL (4/4)
BRT CENTER (4/4)
BRIGHT (4/4)
TP701
W B INSERT P (1/4,4/4)
BLACK SAMPLING P (1/4,3/4,4/4)
WHITE SAMPLING P (1/4,3/4,4/4)
S PULSE 27a
CHAR G 18a
CHAR B 18b
CHAR R 19a
IC316 CONTRAST BRT CONT
GCA
BRIGHT BUFF Q331
IC317 LPF
G BUFF Q332
IC318 PULSE INSERT
G (3/4)
IC516 CONTRAST BRT CONT
BRIGHT BUFF Q531
IC517 LPF
B BUFF Q532
IC518 PULSE INSERT
B (3/4)
IC116 CONTRAST BRT CONT
BRIGHT BUFF Q131
IC117 LPF
R BUFF Q132
IC118 PULSE INSERT
R (3/4)
R BUFF Q130
G BUFF Q330
IC702 G/B SW
IC702 R/GB SW
BUFF Q703
IC701
IC700
IC707 SIGNAL GEN
VIDEO COMP (4/4)
GB SEL (4/4)
R SEL (4/4)
IC708
WHITE/BLACK SW (4/4)
AUTO CP PULSE SW (4/4)
CONT (4/4)
DRIVE REF (4/4)
CH LEVEL (4/4)
BIAS REF (4/4)
W & D P (4/4)
BIAS P (4/4)
IC313
IC504
IC113

Signal Processor
**BK Block (2/4)**
Signal Amp, Video Control
**BK1 Block**

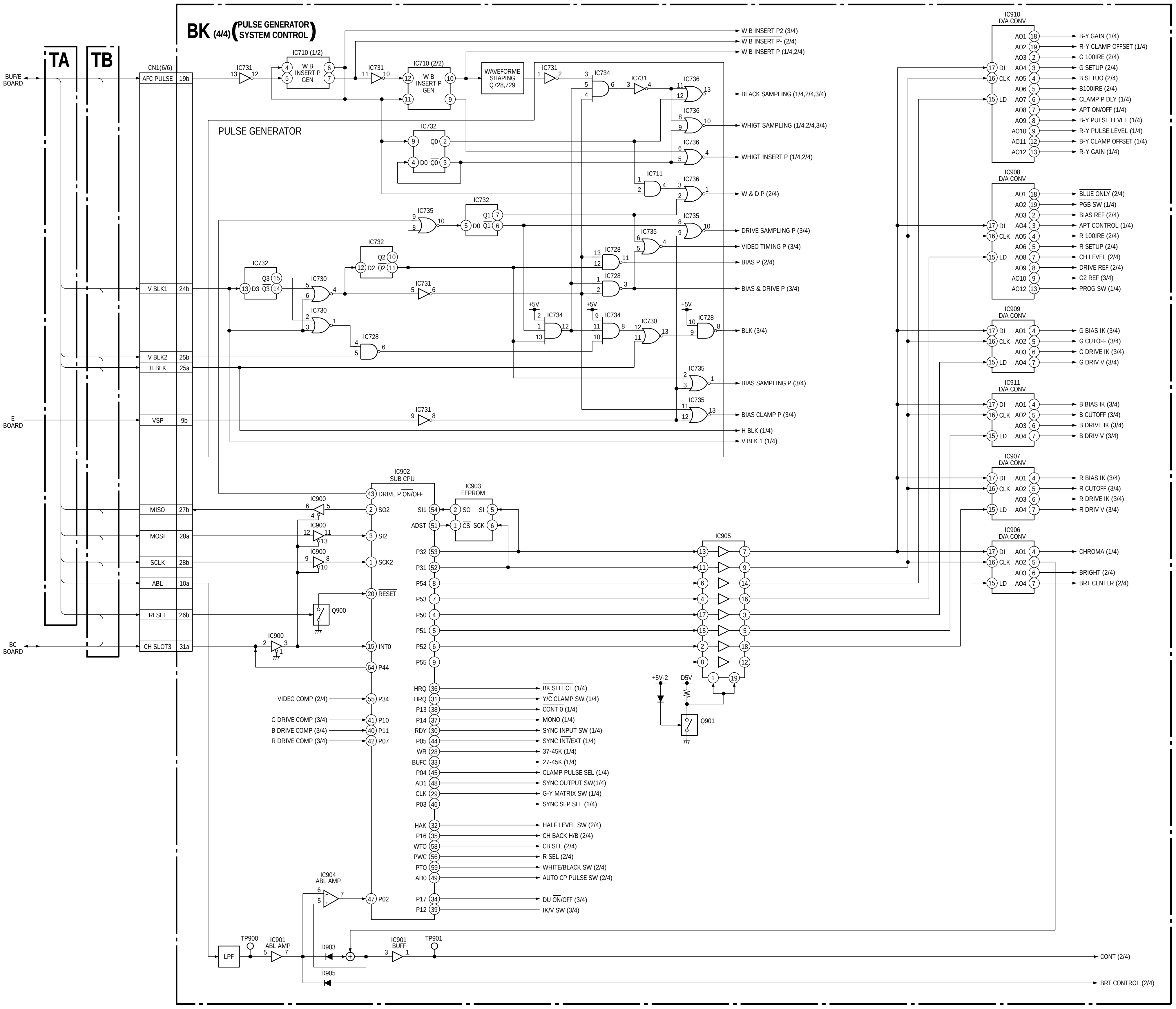
**BK Block (3/4)**
**C Block**


BK (3/4) (SIGNAL OUTPUT)
BUF BOARD
TA
TB
CN1 (4/6)
DU G 8a
DU B 8b
DU R 9a
G (2/4)
G DRIVE V (4/4)
G DRIVE IK (4/4)
G CUT OFF (4/4)
G BIAS IK (4/4)
G DRIVE COMP (4/4)
B (2/4)
B DRIVE V (4/4)
B DRIVE IK (4/4)
B CUT OFF (4/4)
B BIAS IK (4/4)
B DRIVE COMP (4/4)
R (2/4)
R DRIVE V (4/4)
R DRIVE IK (4/4)
R CUT OFF (4/4)
R BIAS IK (4/4)
B DRIVE COMP (4/4)
W B INSERT P2 (4/4)
DU ON/OFF (4/4)
IK/V SW (4/4)
VIDEO TIMING P (4/4)
BIAS SAMPLING P (4/4)
DRIVE SAMPLING P (4/4)
WHITE SAMPLING P (1/2,2/4,4/4)
BIAS CLAMP P (4/4)
BLACK SAMPLING P (1/4,2/4,4/4)
BIAS & DRIVE P (4/4)
G2 REF (4/4)
BLK (4/4)
TP306
TP506
TP106
TP307
TP507
TP107
TP308
TP508
TP108
TP700
IC325 DU AMP
IC326 DRIVE AMP
IC328 CUT OFF
IC329 G AMP
IC330 BIAS
G BUFF Q334
IC331 G OUT BUFF
TRANSMIT OFF SW Q335
Q337
PROTECT Q336
IC324
IC322 LPF
IC323 COMP
IC321 COMP
IC328
IC320
IC330 GIK AMP
IC332 LPF
IC327 CLAMP
IC327 LPF
Q338
Q333
RV300
CV300
+5V
-5V
IC525 DU AMP
IC526 DRIVE AMP
IC528 CUT OFF
IC529 B AMP
IC530 BIAS
B BUFF Q534
IC531 B OUT BUFF
TRANSMIT OFF SW Q535
Q537
PROTECT Q536
IC524
IC522 LPF
IC523 COMP
IC521 COMP
IC528
IC520
IC530 BIK AMP
IC532 LPF
IC527 CLAMP
IC527 LPF
Q538
Q533
RV500
CV500
IC125 DU AMP
IC126 DRIVE AMP
IC128 CUT OFF
IC129 R AMP
IC130 BIAS
R BUFF Q134
IC131 R OUT BUFF
TRANSMIT OFF SW Q135
Q137
PROTECT Q136
IC124
IC122 LPF
IC123 COMP
IC121 COMP
IC128
IC120
IC130 RIK AMP
IC132 LPF
IC127 CLAMP
IC127 LPF
Q138
Q133
RV100
CV300
D5V
Q139
5V-1
IC914
MIXER Q700-702
IC705
IC705 LPF
IC706 G1 AMP
S IN
S OUT
VG
CN1 (5/6)
10b G2 CONTROL
E BOARD
CN6 1 KG 1 CN5
CN7 1 KB 1 CN6
CN5 1 KR 1 CN4
CN8 1 G1 1 CN7
D20 MODEL
D24 MODEL
PA BOARD CN903
H STAT
G2
CN3
C
J1 SOKET
RCV
RV1 H STAT
TP3 G
TP4 B
TP2 R
G
B
R
G1-1
G1-2
G1-3
H1
H2
G4
GM
V901 PICTURE TUBE
G-1,2,3
H1,2
HV
PC BOARD (FBT)
FV1
FV2
FOCUS BLOCK
G BOARD CN17
FV
FC
G-1,2

Signal Output
# BK Block (3/4)
RGB Output
# C Block

BK (4/4)

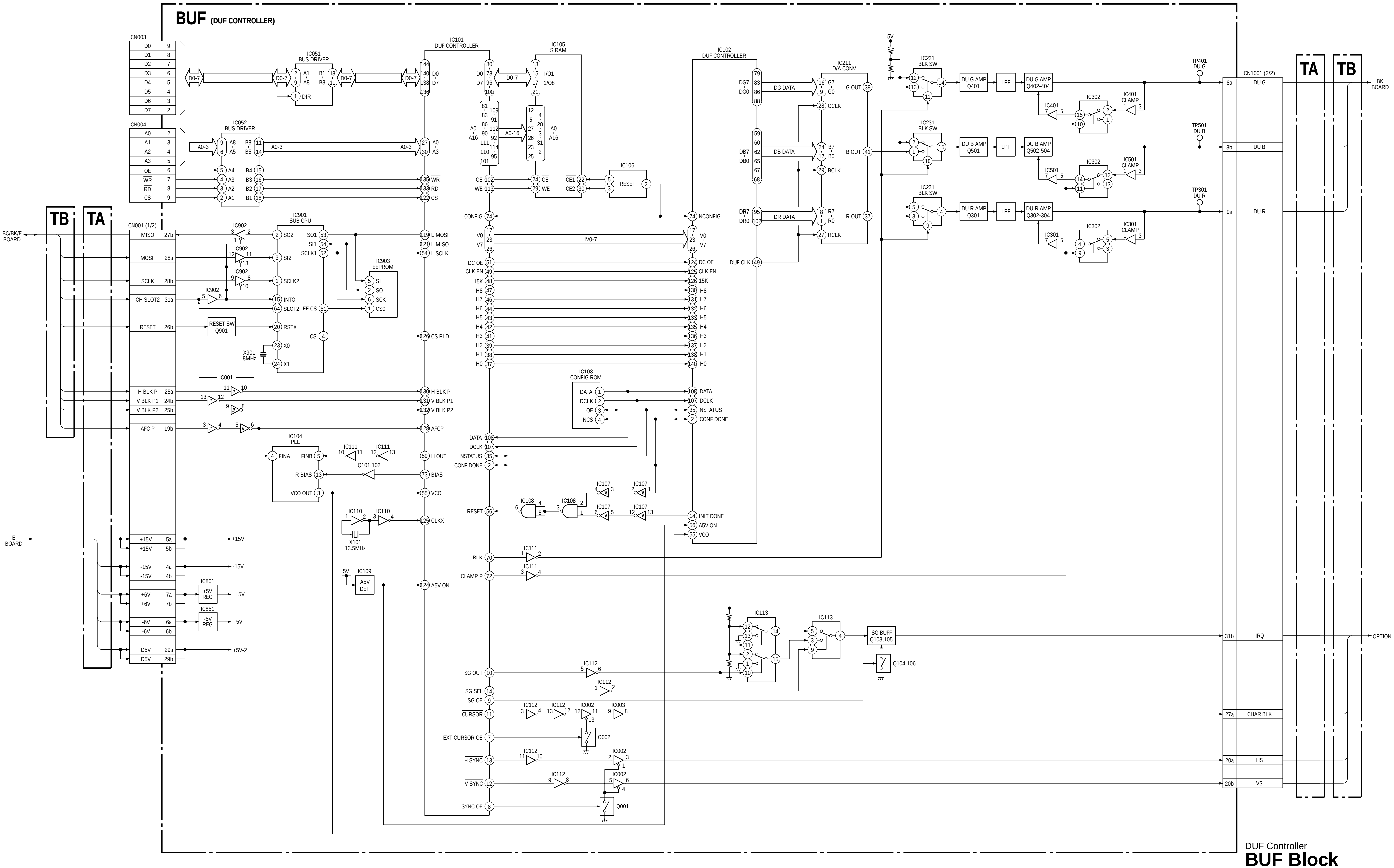
**BK Block (4/4)**


BK (4/4) (PULSE GENERATOR SYSTEM CONTROL)
TA
TB
BUF/E BOARD
E BOARD
BC BOARD
CN1(6/6)
AFC PULSE 19b
V BLK1 24b
V BLK2 25b
H BLK 25a
VSP 9b
MISO 27b
MOSI 28a
SCLK 28b
ABL 10a
RESET 26b
CH SLOT3 31a
PULSE GENERATOR
IC710 (1/2) W B INSERT P GEN
IC710 (2/2) W B INSERT P GEN
WAVEFORME SHAPING Q728,729
IC731
IC732
IC734
IC735
IC736
IC711
IC728
IC730
W B INSERT P2 (3/4)
W B INSERT P- (2/4)
W B INSERT P (1/4,2/4)
BLACK SAMPLING (1/4,2/4,3/4)
WHIGT SAMPLING (1/4,2/4,3/4)
WHIGT INSERT P (1/4,2/4)
W & D P (2/4)
DRIVE SAMPLING P (3/4)
VIDEO TIMING P (3/4)
BIAS P (2/4)
BIAS & DRIVE P (3/4)
BLK (3/4)
BIAS SAMPLING P (3/4)
BIAS CLAMP P (3/4)
H BLK (1/4)
V BLK 1 (1/4)
IC902 SUB CPU
DRIVE P ON/OFF
IC903 EEPROM
IC900
Q900
IC905
IC901 ABL AMP
IC901 BUFF
IC904 ABL AMP
TP900
TP901
LPF
D903
D905
Q901
+5V-2
D5V
VIDEO COMP (2/4)
G DRIVE COMP (3/4)
B DRIVE COMP (3/4)
R DRIVE COMP (3/4)
BK SELECT (1/4)
Y/C CLAMP SW (1/4)
CONT 0 (1/4)
MONO (1/4)
SYNC INPUT SW (1/4)
SYNC INT/EXT (1/4)
37-45K (1/4)
27-45K (1/4)
CLAMP PULSE SEL (1/4)
SYNC OUTPUT SW(1/4)
G-Y MATRIX SW (1/4)
SYNC SEP SEL (1/4)
HALF LEVEL SW (2/4)
CH BACK H/B (2/4)
CB SEL (2/4)
R SEL (2/4)
WHITE/BLACK SW (2/4)
AUTO CP PULSE SW (2/4)
DU ON/OFF (3/4)
IK/V SW (3/4)
CONT (2/4)
BRT CONTROL (2/4)
IC910 D/A CONV
B-Y GAIN (1/4)
R-Y CLAMP OFFSET (1/4)
G 100IRE (2/4)
G SETUP (2/4)
B SETUO (2/4)
B100IRE (2/4)
CLAMP P DLY (1/4)
APT ON/OFF (1/4)
B-Y PULSE LEVEL (1/4)
R-Y PULSE LEVEL (1/4)
B-Y CLAMP OFFSET (1/4)
R-Y GAIN (1/4)
IC908 D/A CONV
BLUE ONLY (2/4)
PGB SW (1/4)
BIAS REF (2/4)
APT CONTROL (1/4)
R 100IRE (2/4)
R SETUP (2/4)
CH LEVEL (2/4)
DRIVE REF (2/4)
G2 REF (3/4)
PROG SW (1/4)
IC909 D/A CONV
G BIAS IK (3/4)
G CUTOFF (3/4)
G DRIVE IK (3/4)
G DRIV V (3/4)
IC911 D/A CONV
B BIAS IK (3/4)
B CUTOFF (3/4)
B DRIVE IK (3/4)
B DRIV V (3/4)
IC907 D/A CONV
R BIAS IK (3/4)
R CUTOFF (3/4)
R DRIVE IK (3/4)
R DRIV V (3/4)
IC906 D/A CONV
CHROMA (1/4)
BRIGHT (2/4)
BRT CENTER (2/4)

Pulse Generator, System Control
## BK Block (4/4)

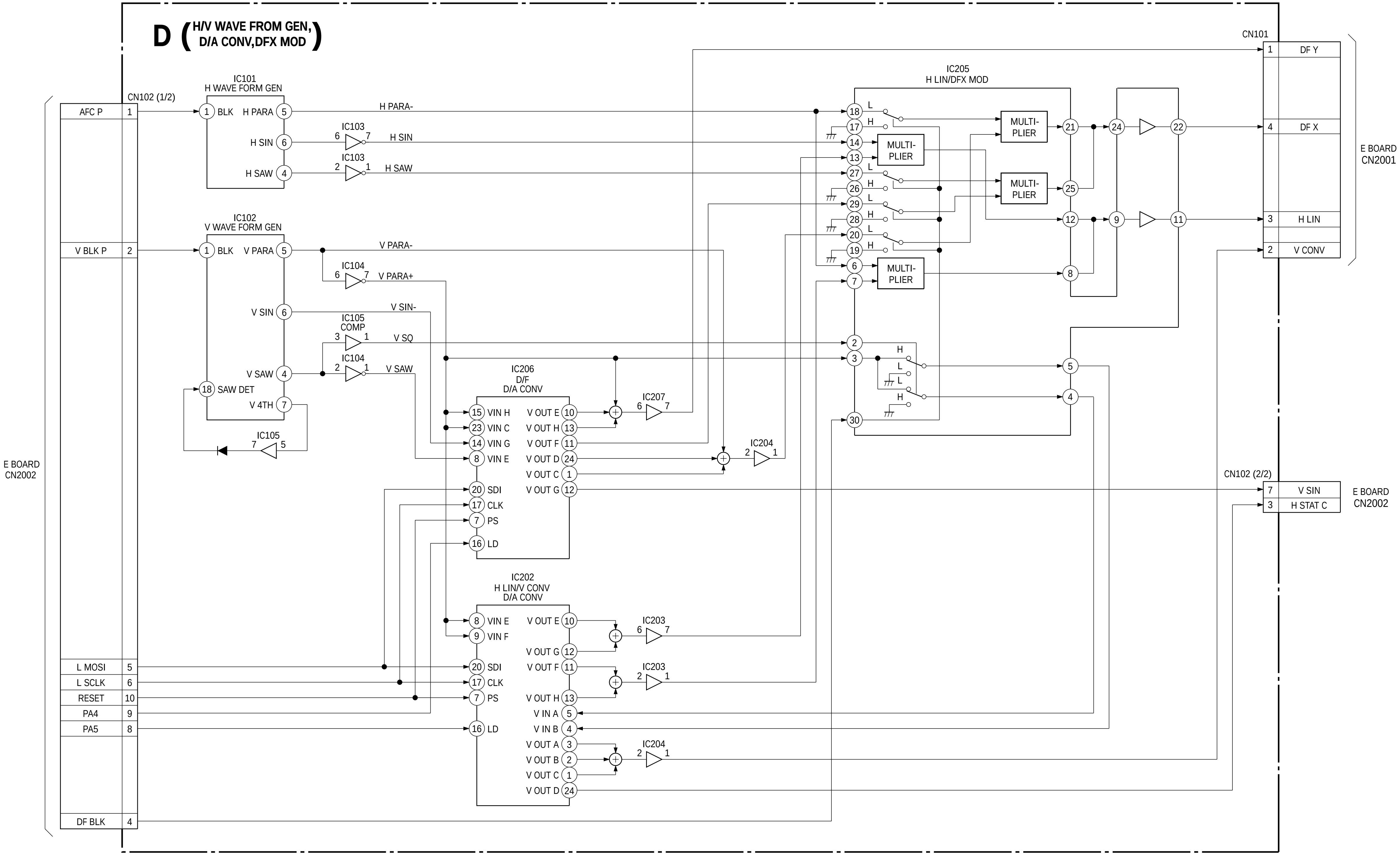
10-8

## BUF Block


BUF (DUF CONTROLLER)
CN003
D0 D1 D2 D3 D4 D5 D6 D7
CN004
A0 A1 A2 A3 OE WR RD CS
IC051 BUS DRIVER
IC052 BUS DRIVER
D0-7
A0-3
DIR
IC101 DUF CONTROLLER
IC105 S RAM
I/O1 I/O8
A0 A16
A0-16
OE WE CE1 CE2
IC106 RESET
CONFIG
V0 V7
IV0-7
IC102 DUF CONTROLLER
NCONFIG
DG7 DG0 DG DATA
DB7 DB0 DB DATA
DR7 DR0 DR DATA
DUF CLK
IC211 D/A CONV
G7 G0 GCLK B7 B0 BCLK R7 R0 RCLK
G OUT B OUT R OUT
5V
IC231 BLK SW
DU G AMP Q401
LPF
DU G AMP Q402-404
DU B AMP Q501
DU B AMP Q502-504
DU R AMP Q301
DU R AMP Q302-304
IC302
IC401 CLAMP
IC501 CLAMP
IC301 CLAMP
TP401 DU G
TP501 DU B
TP301 DU R
CN1001 (2/2)
8a DU G
8b DU B
9a DU R
31b IRQ
27a CHAR BLK
20a HS
20b VS
BK BOARD
OPTION
TA
TB
BC/BK/E BOARD
CN001 (1/2)
MISO 27b
MOSI 28a
SCLK 28b
CH SLOT2 31a
RESET 26b
H BLK P 25a
V BLK P1 24b
V BLK P2 25b
AFC P 19b
+15V 5a
+15V 5b
-15V 4a
-15V 4b
+6V 7a
+6V 7b
-6V 6a
-6V 6b
D5V 29a
D5V 29b
E BOARD
IC902
IC901 SUB CPU
SO2 SI2 SCLK2 INTO SLOT2 RSTX X0 X1
SO1 SI1 SCLK1 EE CS CS
IC903 EEPROM
SI SO SCK CS0
RESET SW Q901
X901 8MHz
L MOSI L MISO L SCLK CS PLD
IC001
IC104 PLL
FINA FINB R BIAS VCO OUT
IC111
Q101,102
H OUT BIAS VCO
IC110
X101 13.5MHz
CLKX
IC109 A5V DET
A5V ON
H BLK P V BLK P1 V BLK P2 AFCP
DC OE CLK EN 15K H8 H7 H6 H5 H4 H3 H2 H1 H0
IC103 CONFIG ROM
DATA DCLK OE NCS
DATA DCLK NSTATUS CONF DONE
IC107
IC108
RESET
INIT DONE A5V ON VCO
BLK CLAMP P
IC801 +5V REG
IC851 -5V REG
+15V -15V +5V -5V +5V-2
IC113
SG BUFF Q103,105
Q104,106
IC112
SG OUT SG SEL SG OE CURSOR EXT CURSOR OE H SYNC V SYNC SYNC OE
IC002
IC003
Q002
Q001

DUF Controller
**BUF Block**

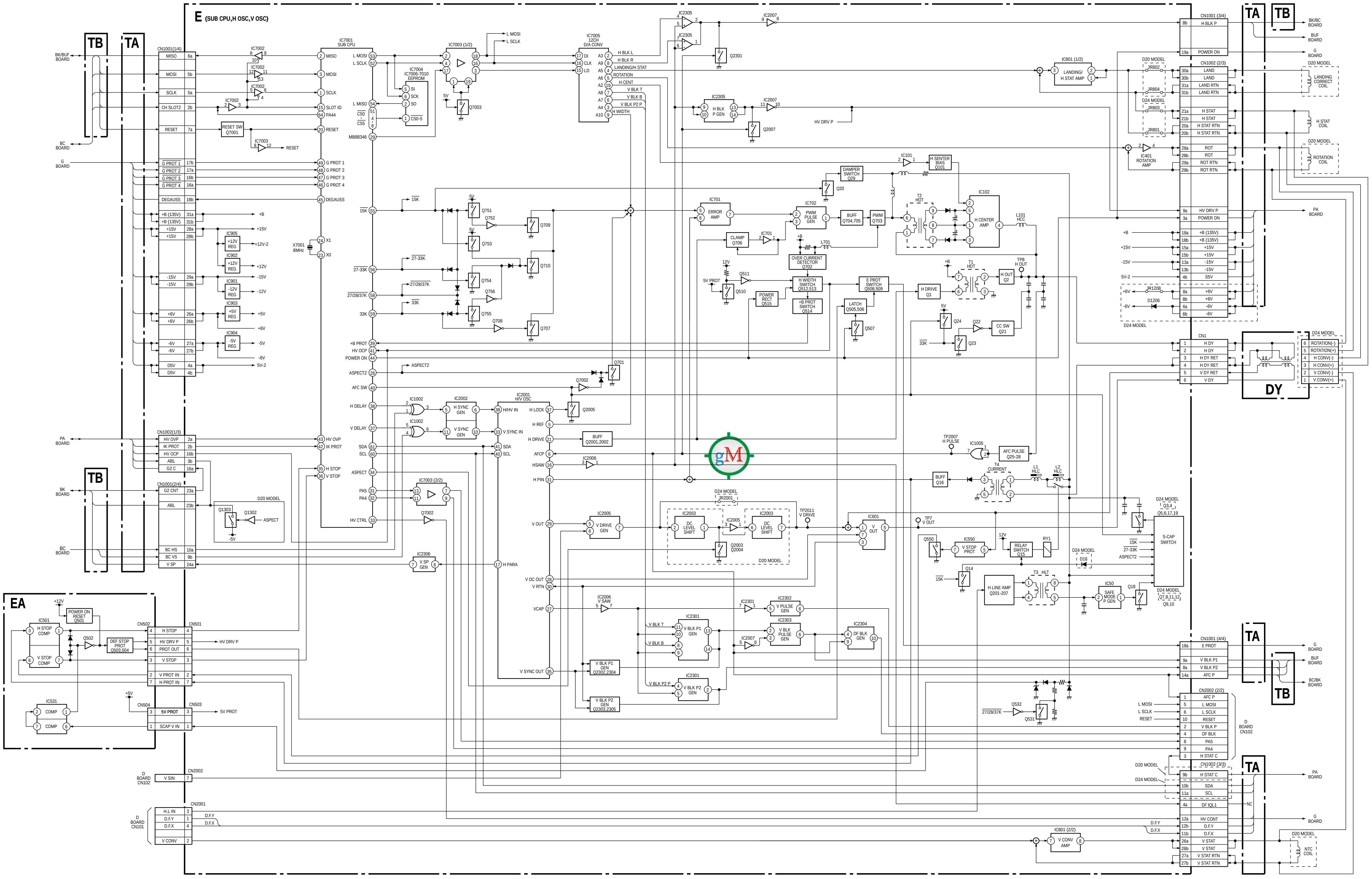
**D Block**


D (H/V WAVE FROM GEN, D/A CONV,DFX MOD)
E BOARD CN2002
CN102 (1/2)
AFC P 1
V BLK P 2
L MOSI 5
L SCLK 6
RESET 10
PA4 9
PA5 8
DF BLK 4
IC101 H WAVE FORM GEN
1 BLK
H PARA 5
H SIN 6
H SAW 4
IC102 V WAVE FORM GEN
1 BLK
V PARA 5
V SIN 6
V SAW 4
18 SAW DET
V 4TH 7
IC103
IC104
IC105 COMP
IC105
H PARA-
H SIN
H SAW
V PARA-
V PARA+
V SIN-
V SQ
V SAW
IC206 D/F D/A CONV
15 VIN H
23 VIN C
14 VIN G
8 VIN E
20 SDI
17 CLK
7 PS
16 LD
V OUT E 10
V OUT H 13
V OUT F 11
V OUT D 24
V OUT C 1
V OUT G 12
IC207
IC204
IC202 H LIN/V CONV D/A CONV
8 VIN E
9 VIN F
20 SDI
17 CLK
7 PS
16 LD
V OUT E 10
V OUT G 12
V OUT F 11
V OUT H 13
V IN A 5
V IN B 4
V OUT A 3
V OUT B 2
V OUT C 1
V OUT D 24
IC203
IC203
IC204
IC205 H LIN/DFX MOD
MULTI-PLIER
MULTI-PLIER
MULTI-PLIER
MULTI-PLIER
L
H
CN101
1 DF Y
4 DF X
3 H LIN
2 V CONV
E BOARD CN2001
CN102 (2/2)
7 V SIN
3 H STAT C
E BOARD CN2002

H/V Wave Form Generator, D/A Converter, DFX Mod.

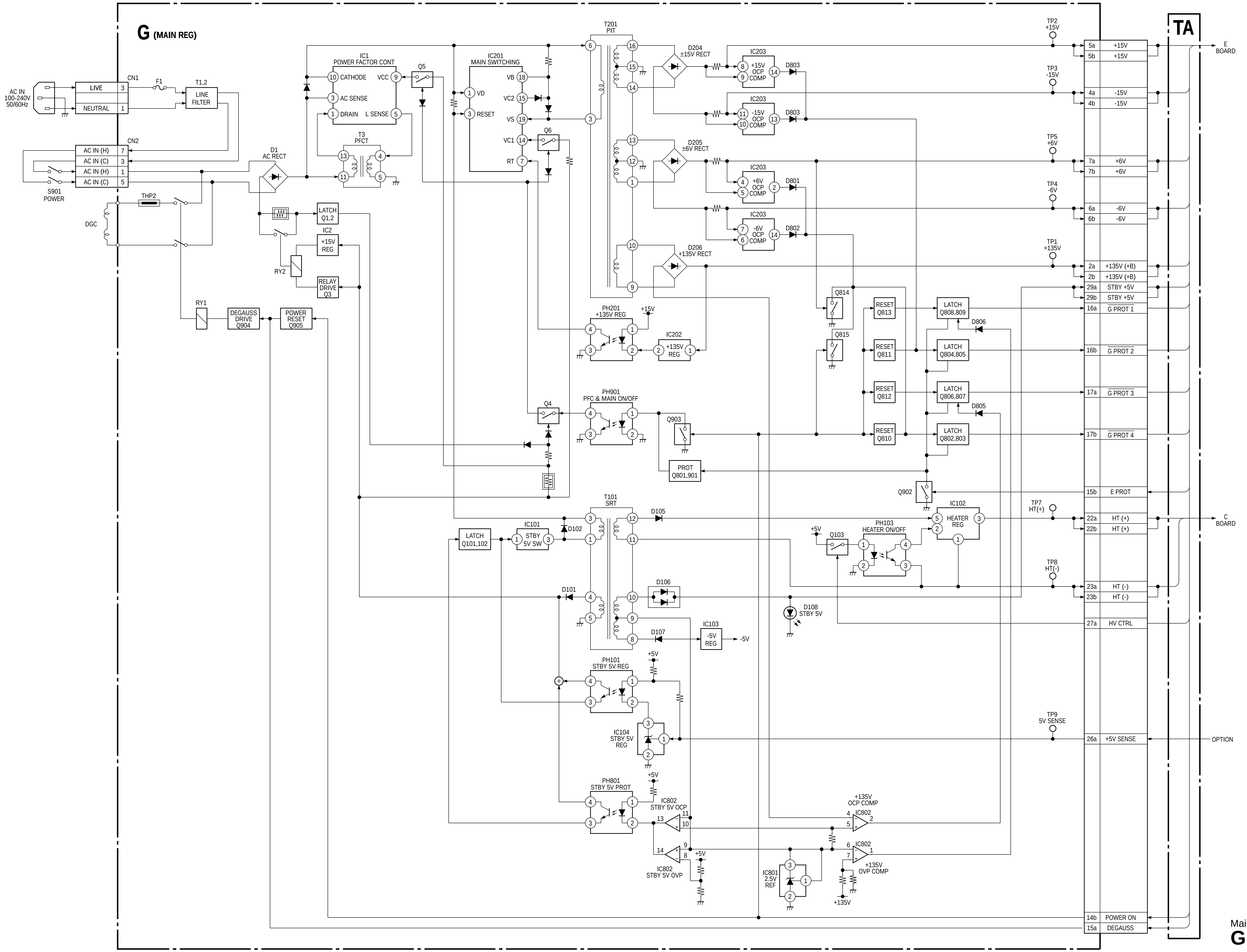
## D Block

## E Block


E (SUB CPU,H OSC,V OSC)
TB
TA
EA
DY
CN1001(1/4)
MISO
MOSI
SCLK
CH SLOT2
RESET
G PROT 1
G PROT 2
G PROT 3
G PROT 4
DEGAUSS
+B (135V)
+15V
-15V
+6V
-6V
D5V
IC7001 SUB CPU
IC7004 IC7006-7010 EEPROM
IC7005 12CH D/A CONV
IC2305
IC2007
IC801 (1/2) LANDING/ H STAT AMP
IC401 ROTATION AMP
CN1001 (3/4)
H BLK P
POWER ON
CN1002 (2/3)
LAND
LAND RTN
H STAT
H STAT RTN
ROT
ROT RTN
LANDING CORRECT COIL
H STAT COIL
ROTATION COIL
IC101
H SENTER BIAS Q101
DAMPER SWITCH Q29
IC701 ERROR AMP
IC702 PWM PULSE GEN
BUFF Q704,705
PWM Q703
T2 HDT
IC102 H CENTER AMP
L101 HCC
CLAMP Q706
OVER CURRENT DETECTOR Q702
H WIDTH SWITCH Q512,513
+B PROT SWITCH Q514
POWER RECT Q515
E PROT SWITCH Q508,509
LATCH Q505,506
H DRIVE Q1
T1 HDT
H OUT Q2
CC SW Q21
CN1002(1/3)
HV OVP
IK PROT
HV OCP
ABL
G2 C
IC1002
IC2002 H SYNC GEN
V SYNC GEN
IC2001 H/V OSC
BUFF Q2001,2002
IC1005
AFC PULSE Q25-28
T4 CURRENT
BUFF Q16
IC7003 (2/2)
D20 MODEL
IC2005 V DRIVE GEN
IC2003 DC LEVEL SHIFT
D24 MODEL JR2001
IC601 V OUT
S-CAP SWITCH
IC550 V STOP PROT
RELAY SWITCH Q15
H LINE AMP Q201-207
T3 HLT
IC50 SAFE MODE P GEN
IC2306 V SP GEN
IC2006 V SAW
IC2301 V BLK P1 GEN
IC2302 V PULSE GEN
IC2303 V BLK PULSE GEN
IC2304 DF BLK GEN
V BLK P1 GEN Q2302,2304
V BLK P2 GEN Q2303,2305
IC501 H STOP COMP V STOP COMP
POWER ON RESET Q501
DEF STOP PROT Q503,504
IC531 COMP
CN502
CN501
CN504
CN503
5V PROT
SCAP V IN
CN2002
V SIN
CN2001
H.L IN
D.F.Y
D.F.X
V CONV
IC801 (2/2) V CONV AMP
CN1001 (4/4)
E PROT
V BLK P1
V BLK P2
AFC P
CN2002 (2/2)
L MOSI
L SCLK
RESET
CN1002 (3/3)
H STAT C
SDA
SCL
DF IQL1
HV CONT
V STAT
V STAT RTN
NTC COIL
CN1
H DY
H DY RET
V DY RET
V DY
ROTATION(-)
ROTATION(+)
H CONV(-)
H CONV(+)
V CONV(-)
V CONV(+)
BK/BC BOARD
BUF BOARD
G BOARD
PA BOARD
BC BOARD
BK BOARD
D BOARD CN102
D BOARD CN101

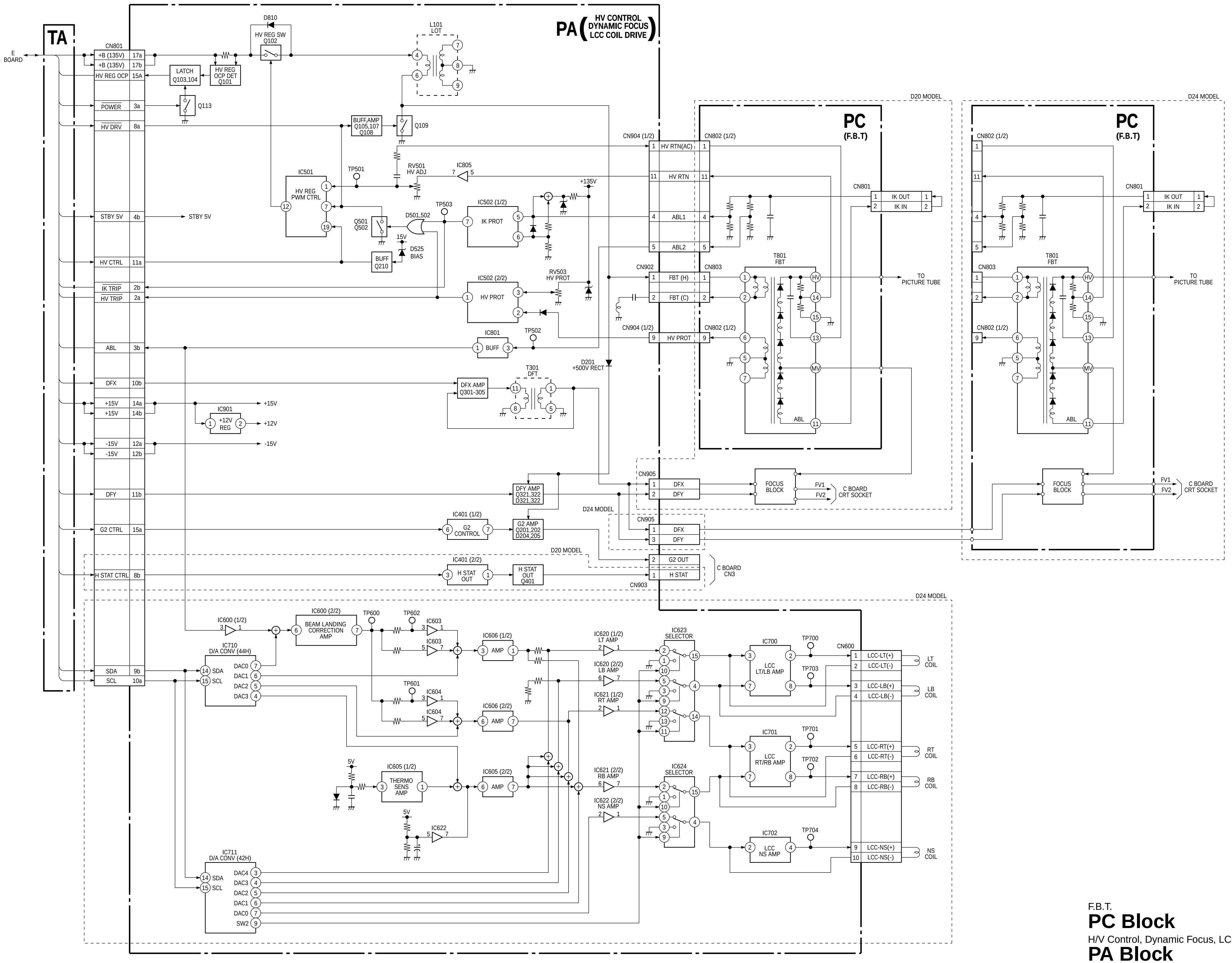
Sub Cpu, H/V Osc.

## E Block


G (MAIN REG)
TA
AC IN 100-240V 50/60Hz
CN1
LIVE
NEUTRAL
F1
T1,2 LINE FILTER
CN2
AC IN (H)
AC IN (C)
S901 POWER
THP2
DGC
D1 AC RECT
IC1 POWER FACTOR CONT
CATHODE
VCC
AC SENSE
DRAIN
L SENSE
Q5
T3 PFCT
IC201 MAIN SWITCHING
VD
RESET
VB
VC2
VS
VC1
RT
Q6
T201 PIT
D204 ±15V RECT
D205 ±6V RECT
D206 +135V RECT
IC203 +15V OCP COMP
IC203 -15V OCP COMP
IC203 +6V OCP COMP
IC203 -6V OCP COMP
D803
D801
D802
LATCH Q1,2
IC2 +15V REG
RELAY DRIVE Q3
RY2
RY1
DEGAUSS DRIVE Q904
POWER RESET Q905
PH201 +135V REG
+15V
IC202 +135V REG
Q814
Q815
RESET Q813
RESET Q811
RESET Q812
RESET Q810
LATCH Q808,809
LATCH Q804,805
LATCH Q806,807
LATCH Q802,803
D806
D805
PH901 PFC & MAIN ON/OFF
Q4
Q903
PROT Q801,901
Q902
IC102 HEATER REG
PH103 HEATER ON/OFF
Q103
+5V
T101 SRT
D105
D102
D101
D106
D107
D108 STBY 5V
IC101 STBY 5V SW
LATCH Q101,102
IC103 -5V REG
-5V
PH101 STBY 5V REG
IC104 STBY 5V REG
PH801 STBY 5V PROT
IC802 STBY 5V OCP
IC802 STBY 5V OVP
+135V OCP COMP IC802
IC802 +135V OVP COMP
IC801 2.5V REF
+135V
TP2 +15V
TP3 -15V
TP5 +6V
TP4 -6V
TP1 +135V
TP7 HT(+)
TP8 HT(-)
TP9 5V SENSE
5a +15V
5b +15V
4a -15V
4b -15V
7a +6V
7b +6V
6a -6V
6b -6V
2a +135V (+B)
2b +135V (+B)
29a STBY +5V
29b STBY +5V
16a G PROT 1
16b G PROT 2
17a G PROT 3
17b G PROT 4
15b E PROT
22a HT (+)
22b HT (+)
23a HT (-)
23b HT (-)
27a HV CTRL
26a +5V SENSE
14b POWER ON
15a DEGAUSS
E BOARD
C BOARD
OPTION

Main Regulator
**G Block**

PA Block
PC Block


TA
PA (HV CONTROL DYNAMIC FOCUS LCC COIL DRIVE)
E BOARD
CN801
+B (135V) 17a
+B (135V) 17b
HV REG OCP 15A
POWER 3a
HV DRV 8a
STBY 5V 4b
HV CTRL 11a
IK TRIP 2b
HV TRIP 2a
ABL 3b
DFX 10b
+15V 14a
+15V 14b
-15V 12a
-15V 12b
DFY 11b
G2 CTRL 15a
H STAT CTRL 8b
SDA 9b
SCL 10a
D810
HV REG SW Q102
LATCH Q103,104
HV REG OCP DET Q101
Q113
L101 LOT
BUFF.AMP Q105,107 Q108
Q109
IC501 HV REG PWM CTRL
TP501
RV501 HV ADJ
IC805
+135V
TP503
IC502 (1/2) IK PROT
Q501 Q502
D501,502
15V
D525 BIAS
BUFF Q210
STBY 5V
IC502 (2/2) HV PROT
RV503 HV PROT
IC801 BUFF
TP502
D201 +500V RECT
T301 DFT
DFX AMP Q301-305
IC901 +12V REG
+15V
+12V
-15V
DFY AMP Q321,322 D321,322
IC401 (1/2) G2 CONTROL
G2 AMP Q201,202 D204,205
IC401 (2/2) H STAT OUT
H STAT OUT Q401
D20 MODEL
D24 MODEL
CN904 (1/2)
CN802 (1/2)
HV RTN(AC)
HV RTN
ABL1
ABL2
CN902
FBT (H)
FBT (C)
CN904 (1/2)
HV PROT
CN905
DFX
DFY
G2 OUT
H STAT
CN903
C BOARD CN3
PC (F.B.T)
CN801
IK OUT
IK IN
CN803
T801 FBT
HV
MV
ABL
TO PICTURE TUBE
FOCUS BLOCK
FV1
FV2
C BOARD CRT SOCKET
IC600 (1/2)
IC600 (2/2) BEAM LANDING CORRECTION AMP
TP600
TP602
IC603
IC606 (1/2) AMP
IC606 (2/2) AMP
IC710 D/A CONV (44H)
SDA
SCL
DAC0
DAC1
DAC2
DAC3
TP601
IC604
5V
IC605 (1/2) THERMO SENS AMP
IC605 (2/2) AMP
IC622
IC711 D/A CONV (42H)
DAC4
SW2
IC620 (1/2) LT AMP
IC620 (2/2) LB AMP
IC621 (1/2) RT AMP
IC621 (2/2) RB AMP
IC622 (2/2) NS AMP
IC623 SELECTOR
IC624 SELECTOR
IC700 LCC LT/LB AMP
IC701 LCC RT/RB AMP
IC702 LCC NS AMP
TP700
TP701
TP702
TP703
TP704
CN600
LCC-LT(+)
LCC-LT(-)
LCC-LB(+)
LCC-LB(-)
LCC-RT(+)
LCC-RT(-)
LCC-RB(+)
LCC-RB(-)
LCC-NS(+)
LCC-NS(-)
LT COIL
LB COIL
RT COIL
RB COIL
NS COIL

F.B.T.

## PC Block

H/V Control, Dynamic Focus, LCC Coil Drive

## PA Block

# Section 11
# Diagrams

**Note:**

- Parts marked “ * ” differ according to the model/destination. Refer to the mount table for each function.
- The parts marked “ # ” on schematic diagrams are not mounted.
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics.
- All electrolytics are in 50 V unless otherwise specified.
- : fusible resistor
- : nonflammable resistor
- Δ : internal component
- ▭ : panel designation and adjustment for repair
- Caution when replacing chip parts
  New parts must be attached after removal of the chip.
  Be careful not to heat the minus side of a tantalum capacitor, because it is easily damaged by the heat.

**Reference information**

| | | |
|---|---|---|
| RESISTOR | RN | : METAL FILM |
| | RC | : SOLID |
| | FPRD | : NONFLAMMABLE CARBON |
| | FUSE | : NONFLAMMABLE FUSIBLE |
| | RS | : NONFLAMMABLE METAL OXIDE |
| | RB | : NONFLAMMABLE CEMENT |
| | RW | : NONFLAMMABLE WIREWOUND |
| | ※ | : ADJUSTMENT RESISTOR |
| COIL | LF-8L | : MICRO INDUCTOR |
| CAPACITOR | TA | : TANTALUM |
| | PS | : STYROL |
| | PP | : POLYPROPYLENE |
| | PT | : MYLAR |
| | MPS | : METALIZED POLYESTER |
| | MPP | : METALIZED POLYPROPYLENE |
| | ALB | : BIPOLAR |
| | ALT | : HIGH TEMPERATURE |
| | ALR | : HIGH RIPPLE |

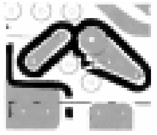
- The components marked ⧓ in this schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
- When replacing components marked ◪, make the necessary adjustments indicated. If results do not meet the specified value, change the component marked ⧓ and repeat the adjustment until the specified value is achieved.
- When replacing a part shown in the table below, be sure to perform the related adjustment. (Refer to Section 4.)

**[Measuring conditions, voltage and waveform]**

- A voltage value is the reference value between the measurement point and the earth, when the NTSC color bar signal and RGB color bar signal are received from the HD color bar generator (digital multi-meter used: 10 M ohms/V DC).
- Unit of voltage is V (volt).
- : B+line
  : B– line
- Voltage variations may occur due to normal production tolerances.
- RGB color bar signal.
- ★ : Measurement disabled.
- Circled numbers indicate the reference waveform.
- ⇨ : Signal path.

The components identified marked ⚠ are critical for safety.
Replace only with the part number specified.

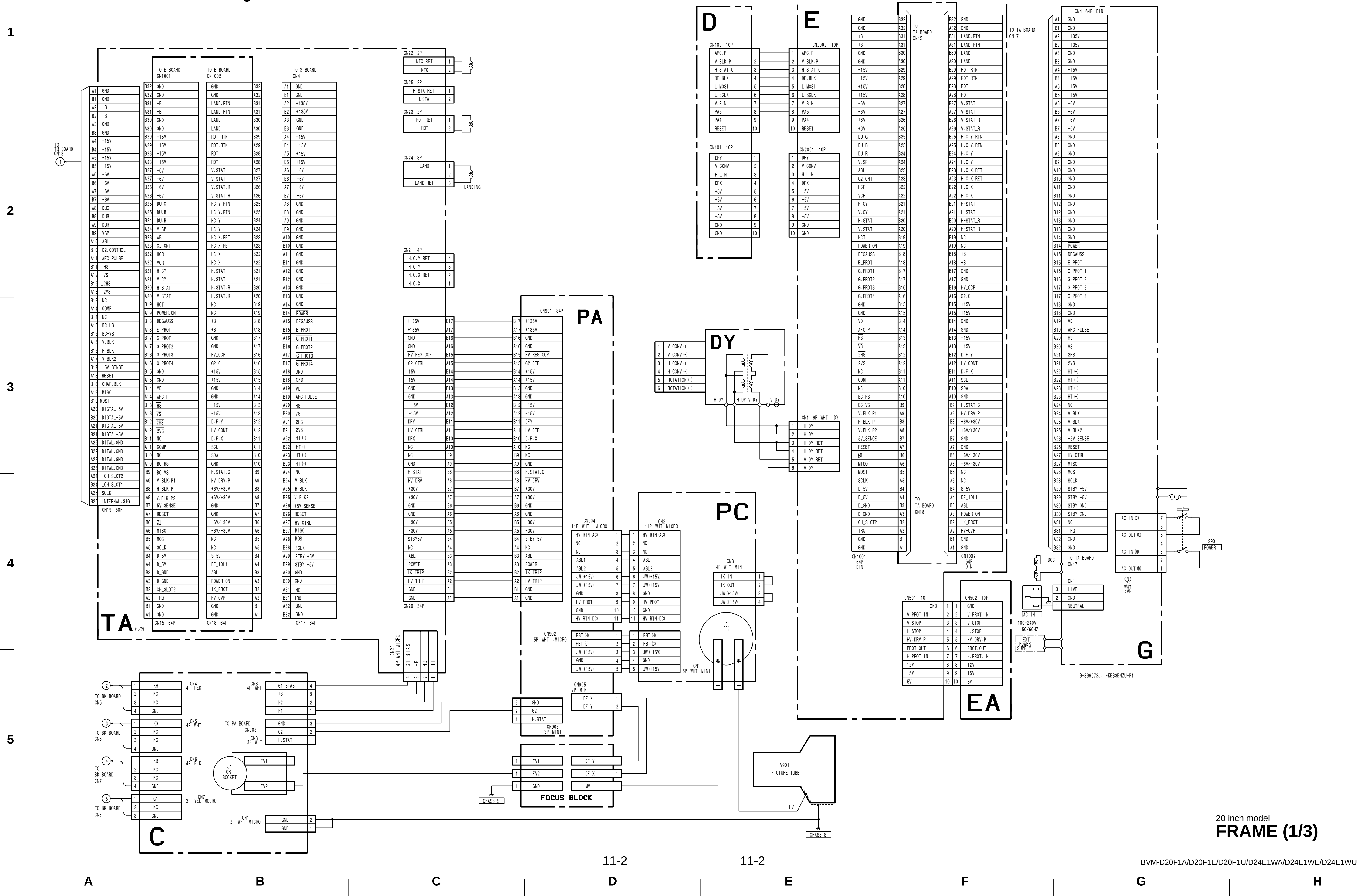
Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.



**NOTE:**
The circuit indicated as shown on the left contains high voltages of over 600 Vp-p. Take care to avoid electric shock during inspection or repair work.

http://getMANUAL.com

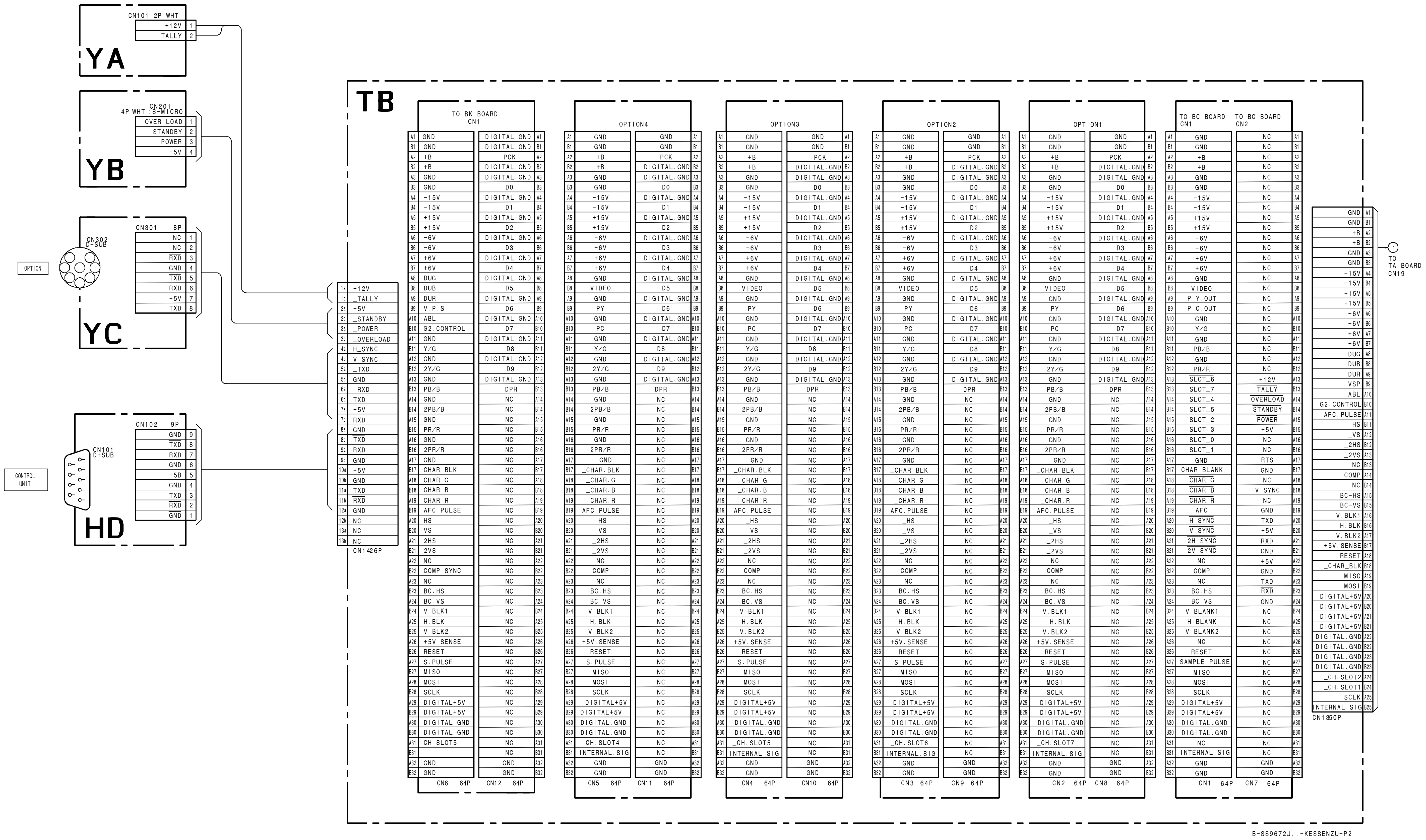
## 11-1. Frame Schematic Diagrams



1
2
3
4
5
A
B
C
D
E
F
G
H
TA (1/2)
TO TB BOARD CN13
CN19 50P
TO E BOARD CN1001
TO E BOARD CN1002
TO G BOARD CN4
CN15 64P
CN18 64P
CN17 64P
CN22 2P
NTC RET
NTC
CN25 2P
H.STA RET
H.STA
CN23 2P
ROT RET
ROT
CN24 3P
LAND
LAND RET
LANDING
CN21 4P
H.C.Y.RET
H.C.Y
H.C.X.RET
H.C.X
CN20 34P
CN26 4P WHT MICRO
G1 BIAS
+B
H2
H1
PA
CN901 34P
CN904 11P WHT MICRO
CN902 5P WHT MICRO
CN905 2P MINI
CN903 3P MINI
FOCUS BLOCK
D
CN102 10P
CN101 10P
E
CN2002 10P
CN2001 10P
CN1 6P WHT DY
DY
V.CONV (+)
V.CONV (−)
H.CONV (+)
H.CONV (−)
ROTATION (+)
ROTATION (−)
H.DY
V.DY
PC
CN2 11P WHT MICRO
CN3 4P WHT MINI
IK IN
IK OUT
JW (+15V)
CN1 5P WHT MINI
FBT
HV
TO TA BOARD CN15
TO TA BOARD CN18
CN1001 64P DIN
CN1002 64P DIN
TO TA BOARD CN17
EA
CN501 10P
CN502 10P
V.PROT.IN
V.STOP
H.STOP
HV.DRV P
PROT.OUT
H.PROT.IN
12V
15V
5V
G
CN4 64P DIN
TO TA BOARD CN17
CN1
LIVE
GND
NEUTRAL
AC IN
100–240V 50/60Hz
EXT POWER SUPPLY
DGC
F1
S901 POWER
AC IN (C)
AC OUT (C)
AC IN (M)
AC OUT (M)
CN2 2P WHT VH
B-SS9672J..-KESSENZU-P1
C
TO BK BOARD CN5
TO BK BOARD CN6
TO BK BOARD CN7
TO BK BOARD CN8
CN4 4P RED
CN5 4P WHT
CN6 4P BLK
CN7 3P YEL MOCRO
CN8 4P WHT
CN3 3P WHT
CN1 2P WHT MICRO
TO PA BOARD CN903
KR
KG
KB
G1
NC
GND
G1 BIAS
G2
H.STAT
J1 CRT SOCKET
FV1
FV2
DF Y
DF X
MV
CHASSIS
V901 PICTURE TUBE

20 inch model
**FRAME (1/3)**

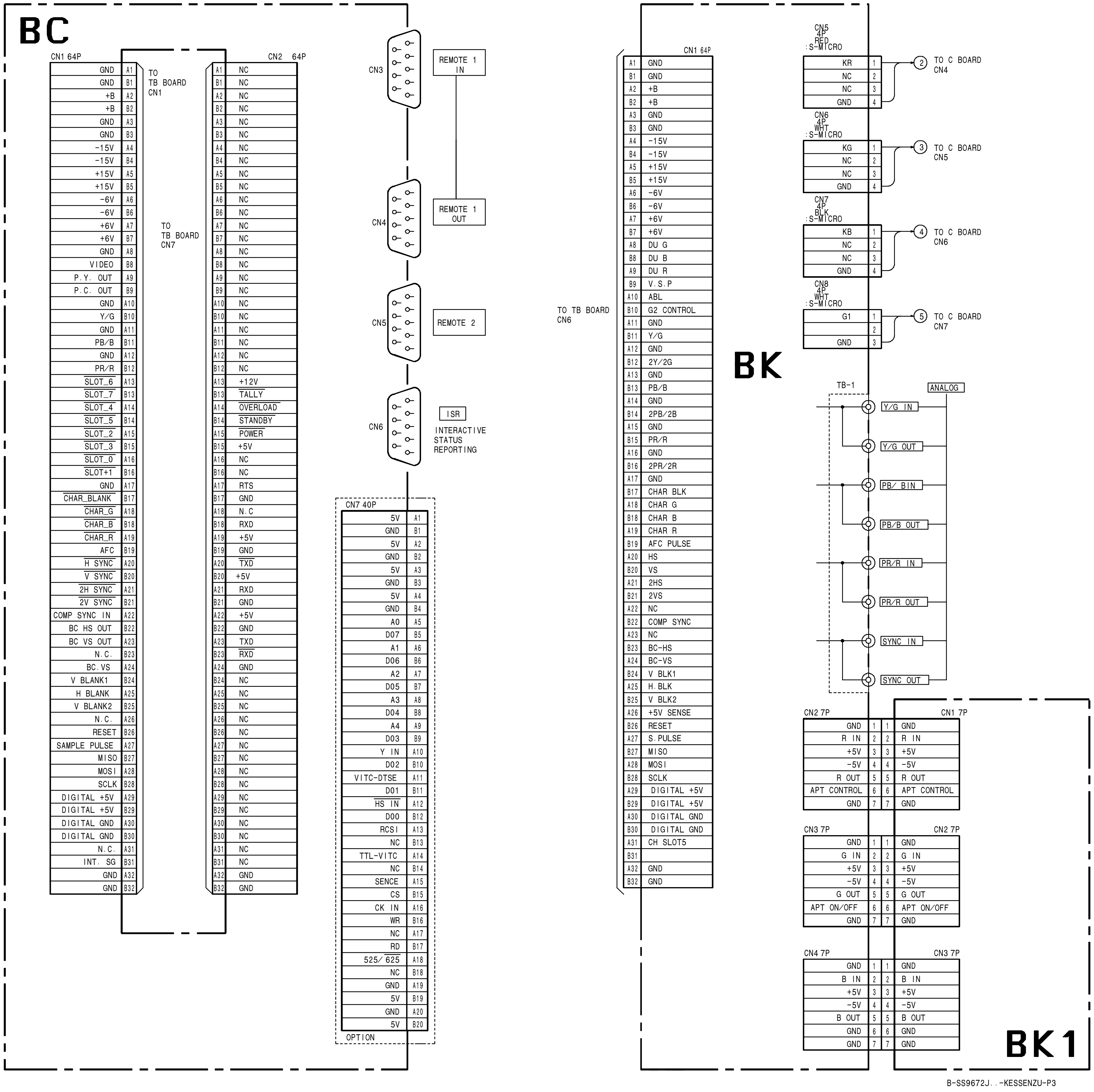
Frame (2/3) 20 inch model


YA
CN101 2P WHT
+12V
TALLY
YB
CN201 4P WHT :S-MICRO
OVER LOAD
STANDBY
POWER
+5V
YC
CN301 8P
CN302 D-SUB
OPTION
HD
CN102 9P
CN101 D-SUB
CONTROL UNIT
TB
CN1426P
TO BK BOARD CN1
CN6 64P
CN12 64P
OPTION4
CN5 64P
CN11 64P
OPTION3
CN4 64P
CN10 64P
OPTION2
CN3 64P
CN9 64P
OPTION1
CN2 64P
CN8 64P
TO BC BOARD CN1
TO BC BOARD CN2
CN1 64P
CN7 64P
CN1350P
① TO TA BOARD CN19
B-SS9672J..-KESSENZU-P2

20 inch model
## FRAME (2/3)

11-3

Frame (3/3) 20 inch model


BC
TO TB BOARD CN1
TO TB BOARD CN7
CN3
REMOTE 1 IN
CN4
REMOTE 1 OUT
CN5
REMOTE 2
CN6
ISR
INTERACTIVE STATUS REPORTING
OPTION
TO TB BOARD CN6
BK
TB-1
ANALOG
Y/G IN
Y/G OUT
PB/ BIN
PB/B OUT
PR/R IN
PR/R OUT
SYNC IN
SYNC OUT
② TO C BOARD CN4
③ TO C BOARD CN5
④ TO C BOARD CN6
⑤ TO C BOARD CN7
BK1
B-SS9672J..-KESSENZU-P3

BC CN1 64P

| Signal | Pin |
|---|---|
| GND | A1 |
| GND | B1 |
| +B | A2 |
| +B | B2 |
| GND | A3 |
| GND | B3 |
| -15V | A4 |
| -15V | B4 |
| +15V | A5 |
| +15V | B5 |
| -6V | A6 |
| -6V | B6 |
| +6V | A7 |
| +6V | B7 |
| GND | A8 |
| VIDEO | B8 |
| P.Y. OUT | A9 |
| P.C. OUT | B9 |
| GND | A10 |
| Y/G | B10 |
| GND | A11 |
| PB/B | B11 |
| GND | A12 |
| PR/R | B12 |
| SLOT_6 | A13 |
| SLOT_7 | B13 |
| SLOT_4 | A14 |
| SLOT_5 | B14 |
| SLOT_2 | A15 |
| SLOT_3 | B15 |
| SLOT_0 | A16 |
| SLOT+1 | B16 |
| GND | A17 |
| CHAR_BLANK | B17 |
| CHAR_G | A18 |
| CHAR_B | B18 |
| CHAR_R | A19 |
| AFC | B19 |
| H SYNC | A20 |
| V SYNC | B20 |
| 2H SYNC | A21 |
| 2V SYNC | B21 |
| COMP SYNC IN | A22 |
| BC HS OUT | B22 |
| BC VS OUT | A23 |
| N.C. | B23 |
| BC.VS | A24 |
| V BLANK1 | B24 |
| H BLANK | A25 |
| V BLANK2 | B25 |
| N.C. | A26 |
| RESET | B26 |
| SAMPLE PULSE | A27 |
| MISO | B27 |
| MOSI | A28 |
| SCLK | B28 |
| DIGITAL +5V | A29 |
| DIGITAL +5V | B29 |
| DIGITAL GND | A30 |
| DIGITAL GND | B30 |
| N.C. | A31 |
| INT. SG | B31 |
| GND | A32 |
| GND | B32 |

CN2 64P

| Pin | Signal |
|---|---|
| A1 | NC |
| B1 | NC |
| A2 | NC |
| B2 | NC |
| A3 | NC |
| B3 | NC |
| A4 | NC |
| B4 | NC |
| A5 | NC |
| B5 | NC |
| A6 | NC |
| B6 | NC |
| A7 | NC |
| B7 | NC |
| A8 | NC |
| B8 | NC |
| A9 | NC |
| B9 | NC |
| A10 | NC |
| B10 | NC |
| A11 | NC |
| B11 | NC |
| A12 | NC |
| B12 | NC |
| A13 | +12V |
| B13 | TALLY |
| A14 | OVERLOAD |
| B14 | STANDBY |
| A15 | POWER |
| B15 | +5V |
| A16 | NC |
| B16 | NC |
| A17 | RTS |
| B17 | GND |
| A18 | N.C |
| B18 | RXD |
| A19 | +5V |
| B19 | GND |
| A20 | TXD |
| B20 | +5V |
| A21 | RXD |
| B21 | GND |
| A22 | +5V |
| B22 | GND |
| A23 | TXD |
| B23 | RXD |
| A24 | GND |
| B24 | NC |
| A25 | NC |
| B25 | NC |
| A26 | NC |
| B26 | NC |
| A27 | NC |
| B27 | NC |
| A28 | NC |
| B28 | NC |
| A29 | NC |
| B29 | NC |
| A30 | NC |
| B30 | NC |
| A31 | NC |
| B31 | NC |
| A32 | GND |
| B32 | GND |

CN7 40P

| Signal | Pin |
|---|---|
| 5V | A1 |
| GND | B1 |
| 5V | A2 |
| GND | B2 |
| 5V | A3 |
| GND | B3 |
| 5V | A4 |
| GND | B4 |
| A0 | A5 |
| D07 | B5 |
| A1 | A6 |
| D06 | B6 |
| A2 | A7 |
| D05 | B7 |
| A3 | A8 |
| D04 | B8 |
| A4 | A9 |
| D03 | B9 |
| Y IN | A10 |
| D02 | B10 |
| VITC-DTSE | A11 |
| D01 | B11 |
| HS IN | A12 |
| D00 | B12 |
| RCSI | A13 |
| NC | B13 |
| TTL-VITC | A14 |
| NC | B14 |
| SENCE | A15 |
| CS | B15 |
| CK IN | A16 |
| WR | B16 |
| NC | A17 |
| RD | B17 |
| 525/625 | A18 |
| NC | B18 |
| GND | A19 |
| 5V | B19 |
| GND | A20 |
| 5V | B20 |

BK CN1 64P

| Pin | Signal |
|---|---|
| A1 | GND |
| B1 | GND |
| A2 | +B |
| B2 | +B |
| A3 | GND |
| B3 | GND |
| A4 | -15V |
| B4 | -15V |
| A5 | +15V |
| B5 | +15V |
| A6 | -6V |
| B6 | -6V |
| A7 | +6V |
| B7 | +6V |
| A8 | DU G |
| B8 | DU B |
| A9 | DU R |
| B9 | V.S.P |
| A10 | ABL |
| B10 | G2 CONTROL |
| A11 | GND |
| B11 | Y/G |
| A12 | GND |
| B12 | 2Y/2G |
| A13 | GND |
| B13 | PB/B |
| A14 | GND |
| B14 | 2PB/2B |
| A15 | GND |
| B15 | PR/R |
| A16 | GND |
| B16 | 2PR/2R |
| A17 | GND |
| B17 | CHAR BLK |
| A18 | CHAR G |
| B18 | CHAR B |
| A19 | CHAR R |
| B19 | AFC PULSE |
| A20 | HS |
| B20 | VS |
| A21 | 2HS |
| B21 | 2VS |
| A22 | NC |
| B22 | COMP SYNC |
| A23 | NC |
| B23 | BC-HS |
| A24 | BC-VS |
| B24 | V BLK1 |
| A25 | H.BLK |
| B25 | V BLK2 |
| A26 | +5V SENSE |
| B26 | RESET |
| A27 | S.PULSE |
| B27 | MISO |
| A28 | MOSI |
| B28 | SCLK |
| A29 | DIGITAL +5V |
| B29 | DIGITAL +5V |
| A30 | DIGITAL GND |
| B30 | DIGITAL GND |
| A31 | CH SLOT5 |
| B31 | |
| A32 | GND |
| B32 | GND |

CN5 4P RED :S-MICRO

| Signal | Pin |
|---|---|
| KR | 1 |
| NC | 2 |
| NC | 3 |
| GND | 4 |

CN6 4P WHT :S-MICRO

| Signal | Pin |
|---|---|
| KG | 1 |
| NC | 2 |
| NC | 3 |
| GND | 4 |

CN7 4P BLK :S-MICRO

| Signal | Pin |
|---|---|
| KB | 1 |
| NC | 2 |
| NC | 3 |
| GND | 4 |

CN8 4P WHT :S-MICRO

| Signal | Pin |
|---|---|
| G1 | 1 |
| | 2 |
| GND | 3 |

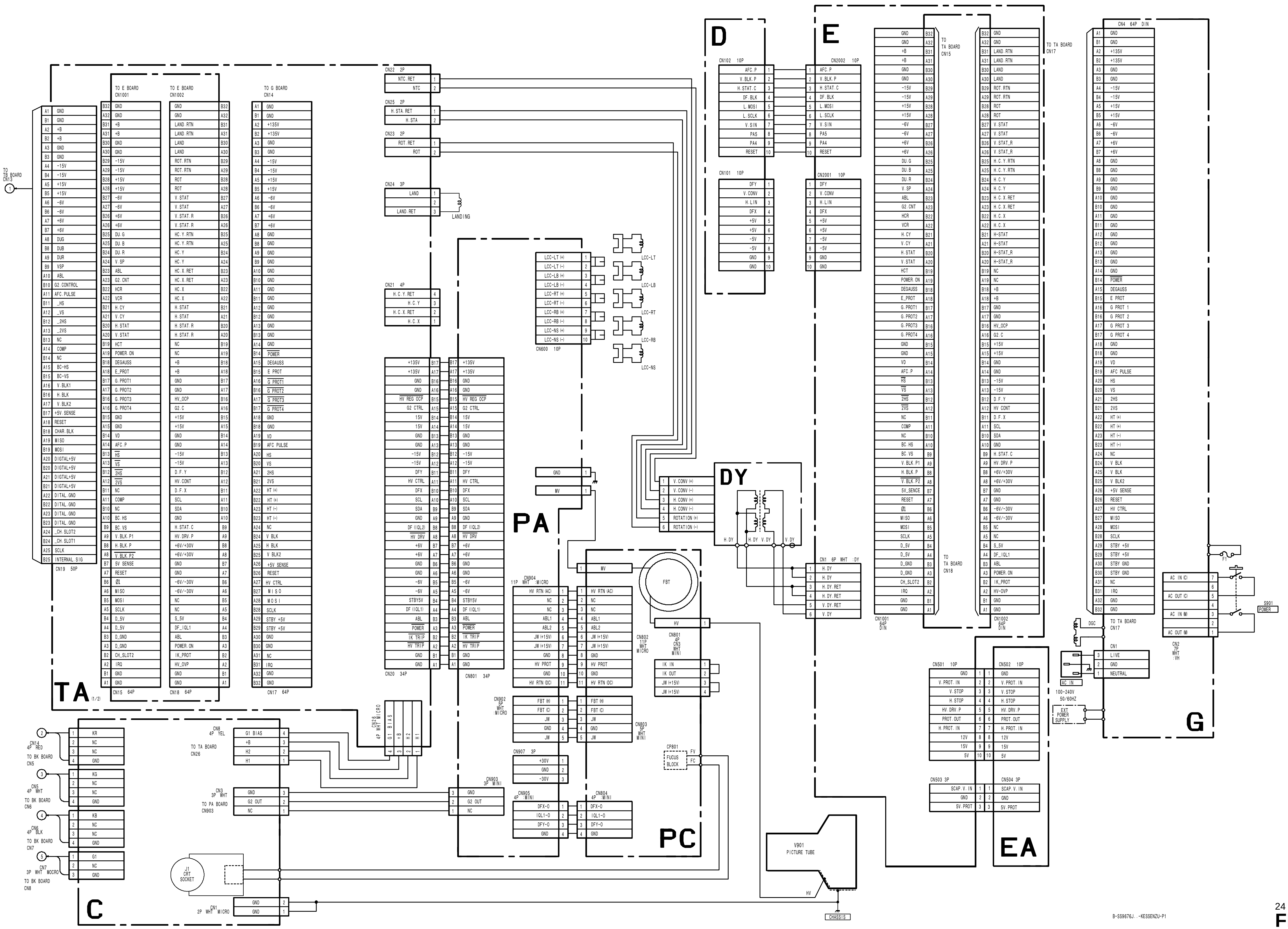
| CN2 7P | | | CN1 7P |
|---|---|---|---|
| GND | 1 | 1 | GND |
| R IN | 2 | 2 | R IN |
| +5V | 3 | 3 | +5V |
| -5V | 4 | 4 | -5V |
| R OUT | 5 | 5 | R OUT |
| APT CONTROL | 6 | 6 | APT CONTROL |
| GND | 7 | 7 | GND |

| CN3 7P | | | CN2 7P |
|---|---|---|---|
| GND | 1 | 1 | GND |
| G IN | 2 | 2 | G IN |
| +5V | 3 | 3 | +5V |
| -5V | 4 | 4 | -5V |
| G OUT | 5 | 5 | G OUT |
| APT ON/OFF | 6 | 6 | APT ON/OFF |
| GND | 7 | 7 | GND |

| CN4 7P | | | CN3 7P |
|---|---|---|---|
| GND | 1 | 1 | GND |
| B IN | 2 | 2 | B IN |
| +5V | 3 | 3 | +5V |
| -5V | 4 | 4 | -5V |
| B OUT | 5 | 5 | B OUT |
| GND | 6 | 6 | GND |
| GND | 7 | 7 | GND |

20 inch model
**FRAME (3/3)**

**Frame (1/3)** 24 inch model


TA
(1/2)
TO TB BOARD CN13
CN19 50P
TO E BOARD CN1001
CN15 64P
TO E BOARD CN1002
CN18 64P
TO G BOARD CN14
CN17 64P
CN22 2P
NTC RET
NTC
CN25 2P
H.STA RET
H.STA
CN23 2P
ROT.RET
ROT
CN24 3P
LAND
LAND.RET
LANDING
CN21 4P
H.C.Y.RET
H.C.Y
H.C.X.RET
H.C.X
CN20 34P
CN801 34P
CN26 4P WHT MICRO
G1 BIAS
PA
CN600 10P
LCC-LT
LCC-LB
LCC-RT
LCC-RB
LCC-NS
CN904 11P WHT MICRO
CN802 11P WHT MICRO
CN902 5P WHT MICRO
CN803 5P WHT MINI
CN907 3P
CN903 3P MINI
CN905 4P MINI
CN804 4P MINI
PC
FBT
HV
CN801 4P CN3 WHT MINI
CP801 FOCUS BLOCK
FV
FC
C
CN14 4P RED TO BK BOARD CN5
CN5 4P WHT TO BK BOARD CN6
CN6 4P BLK TO BK BOARD CN7
CN7 3P WHT MOCRO TO BK BOARD CN8
CN8 4P YEL TO TA BOARD CN26
CN3 3P WHT TO PA BOARD CN903
CN1 2P WHT MICRO
J1 CRT SOCKET
D
CN102 10P
CN101 10P
E
CN2002 10P
CN2001 10P
DY
H.DY
V.DY
CN1 6P WHT :DY
TO TA BOARD CN15
TO TA BOARD CN18
CN1001 64P DIN
CN1002 64P DIN
TO TA BOARD CN17
V901 PICTURE TUBE
CHASSIS
EA
CN501 10P
CN502 10P
CN503 3P
CN504 3P
G
CN4 64P DIN
TO TA BOARD CN17
DGC
CN1
LIVE
GND
NEUTRAL
AC IN
100-240V 50/60HZ
EXT POWER SUPPLY
CN2 7P WHT :VH
AC IN (C)
AC OUT (C)
AC IN (M)
AC OUT (M)
F1
S901 POWER
B-SS9676J..-KESSENZU-P1

24 inch model
**FRAME (1/3)**

11-5

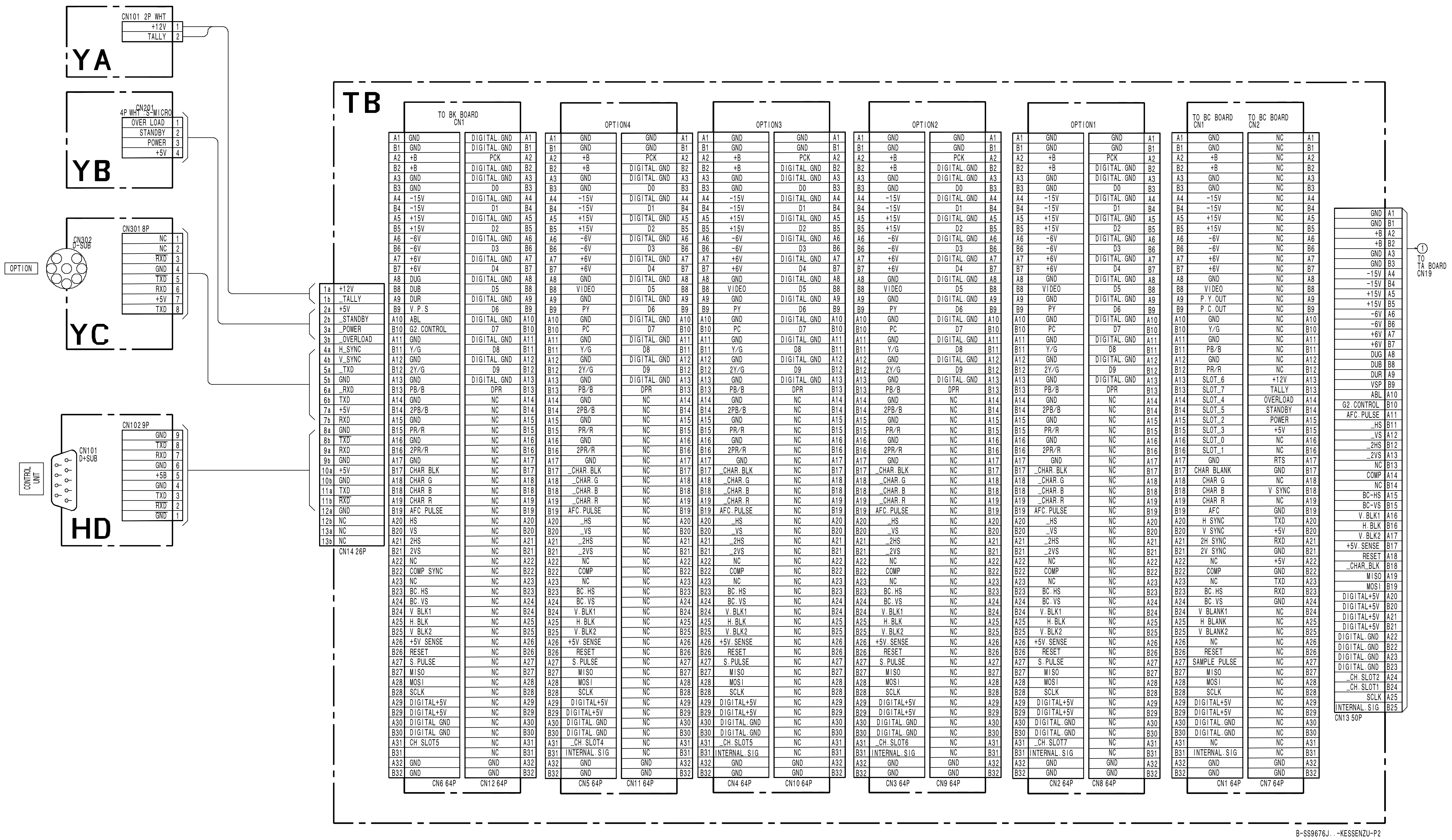
1

2

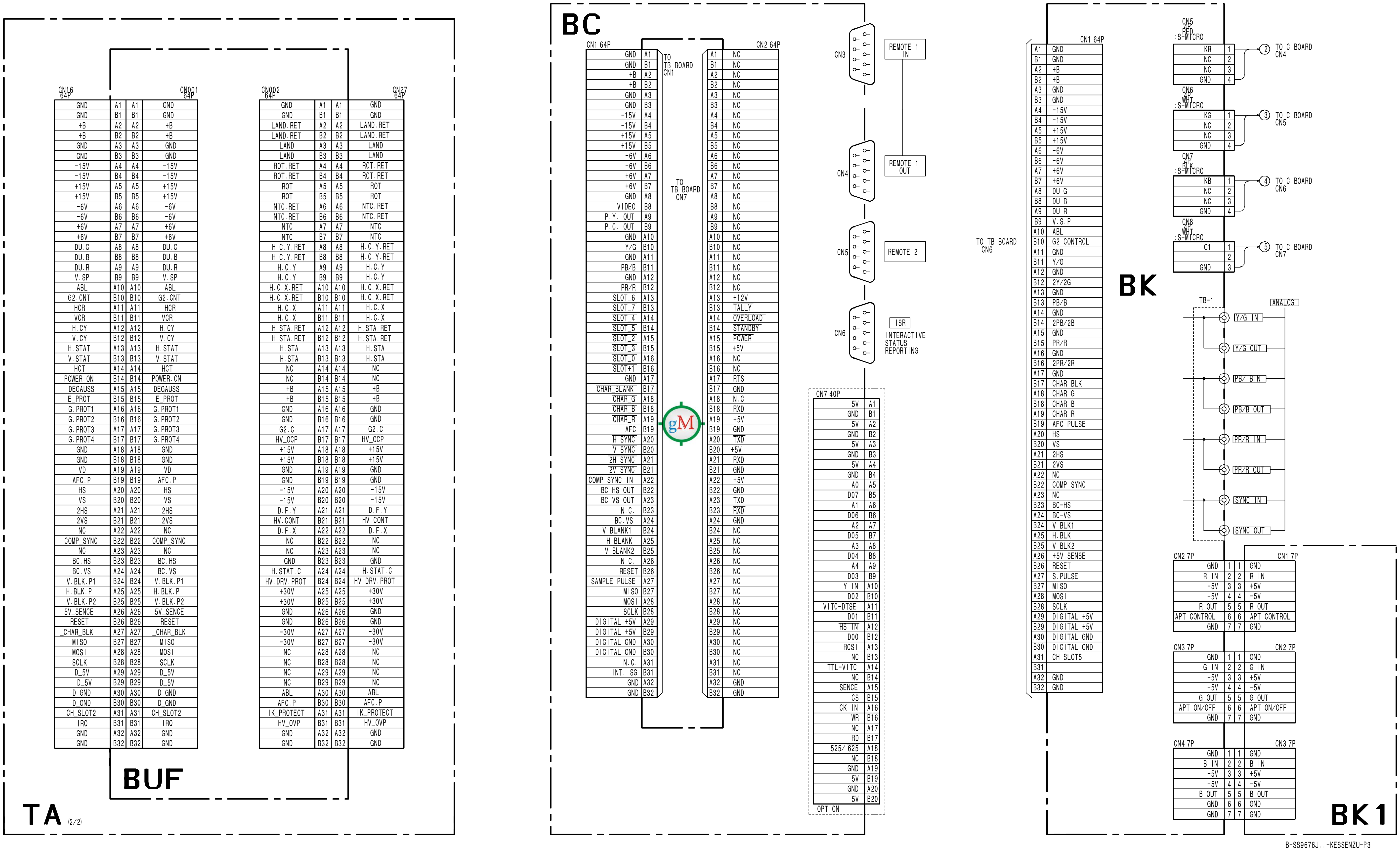
3

4

5


YA
CN101 2P WHT
+12V
TALLY
YB
CN201 4P WHT :S-MICRO
OVER LOAD
STANDBY
POWER
+5V
YC
CN301 8P
CN302 D-SUB
OPTION
HD
CN102 9P
CN101 D+SUB
CONTROL UNIT
CN14 26P
TB
TO BK BOARD CN1
CN6 64P
CN12 64P
OPTION4
CN5 64P
CN11 64P
OPTION3
CN4 64P
CN10 64P
OPTION2
CN3 64P
CN9 64P
OPTION1
CN2 64P
CN8 64P
TO BC BOARD CN1
TO BC BOARD CN2
CN1 64P
CN7 64P
CN13 50P
TO TA BOARD CN19
B-SS9676J..-KESSENZU-P2

24 inch model
## FRAME (2/3)



| CN16 64P | | | CN001 64P |
|---|---|---|---|
| GND | A1 | A1 | GND |
| GND | B1 | B1 | GND |
| +B | A2 | A2 | +B |
| +B | B2 | B2 | +B |
| GND | A3 | A3 | GND |
| GND | B3 | B3 | GND |
| −15V | A4 | A4 | −15V |
| −15V | B4 | B4 | −15V |
| +15V | A5 | A5 | +15V |
| +15V | B5 | B5 | +15V |
| −6V | A6 | A6 | −6V |
| −6V | B6 | B6 | −6V |
| +6V | A7 | A7 | +6V |
| +6V | B7 | B7 | +6V |
| DU.G | A8 | A8 | DU.G |
| DU.B | B8 | B8 | DU.B |
| DU.R | A9 | A9 | DU.R |
| V.SP | B9 | B9 | V.SP |
| ABL | A10 | A10 | ABL |
| G2.CNT | B10 | B10 | G2.CNT |
| HCR | A11 | A11 | HCR |
| VCR | B11 | B11 | VCR |
| H.CY | A12 | A12 | H.CY |
| V.CY | B12 | B12 | V.CY |
| H.STAT | A13 | A13 | H.STAT |
| V.STAT | B13 | B13 | V.STAT |
| HCT | A14 | A14 | HCT |
| POWER.ON | B14 | B14 | POWER.ON |
| DEGAUSS | A15 | A15 | DEGAUSS |
| E_PROT | B15 | B15 | E_PROT |
| G.PROT1 | A16 | A16 | G.PROT1 |
| G.PROT2 | B16 | B16 | G.PROT2 |
| G.PROT3 | A17 | A17 | G.PROT3 |
| G.PROT4 | B17 | B17 | G.PROT4 |
| GND | A18 | A18 | GND |
| GND | B18 | B18 | GND |
| VD | A19 | A19 | VD |
| AFC.P | B19 | B19 | AFC.P |
| HS | A20 | A20 | HS |
| VS | B20 | B20 | VS |
| 2HS | A21 | A21 | 2HS |
| 2VS | B21 | B21 | 2VS |
| NC | A22 | A22 | NC |
| COMP_SYNC | B22 | B22 | COMP_SYNC |
| NC | A23 | A23 | NC |
| BC.HS | B23 | B23 | BC.HS |
| BC.VS | A24 | A24 | BC.VS |
| V.BLK.P1 | B24 | B24 | V.BLK.P1 |
| H.BLK.P | A25 | A25 | H.BLK.P |
| V.BLK.P2 | B25 | B25 | V.BLK.P2 |
| 5V_SENCE | A26 | A26 | 5V_SENCE |
| RESET | B26 | B26 | RESET |
| _CHAR_BLK | A27 | A27 | _CHAR_BLK |
| MISO | B27 | B27 | MISO |
| MOSI | A28 | A28 | MOSI |
| SCLK | B28 | B28 | SCLK |
| D_5V | A29 | A29 | D_5V |
| D_5V | B29 | B29 | D_5V |
| D_GND | A30 | A30 | D_GND |
| D_GND | B30 | B30 | D_GND |
| CH_SLOT2 | A31 | A31 | CH_SLOT2 |
| IRQ | B31 | B31 | IRQ |
| GND | A32 | A32 | GND |
| GND | B32 | B32 | GND |

| CN002 64P | | | CN27 64P |
|---|---|---|---|
| GND | A1 | A1 | GND |
| GND | B1 | B1 | GND |
| LAND.RET | A2 | A2 | LAND.RET |
| LAND.RET | B2 | B2 | LAND.RET |
| LAND | A3 | A3 | LAND |
| LAND | B3 | B3 | LAND |
| ROT.RET | A4 | A4 | ROT.RET |
| ROT.RET | B4 | B4 | ROT.RET |
| ROT | A5 | A5 | ROT |
| ROT | B5 | B5 | ROT |
| NTC.RET | A6 | A6 | NTC.RET |
| NTC.RET | B6 | B6 | NTC.RET |
| NTC | A7 | A7 | NTC |
| NTC | B7 | B7 | NTC |
| H.C.Y.RET | A8 | A8 | H.C.Y.RET |
| H.C.Y.RET | B8 | B8 | H.C.Y.RET |
| H.C.Y | A9 | A9 | H.C.Y |
| H.C.Y | B9 | B9 | H.C.Y |
| H.C.X.RET | A10 | A10 | H.C.X.RET |
| H.C.X.RET | B10 | B10 | H.C.X.RET |
| H.C.X | A11 | A11 | H.C.X |
| H.C.X | B11 | B11 | H.C.X |
| H.STA.RET | A12 | A12 | H.STA.RET |
| H.STA.RET | B12 | B12 | H.STA.RET |
| H.STA | A13 | A13 | H.STA |
| H.STA | B13 | B13 | H.STA |
| NC | A14 | A14 | NC |
| NC | B14 | B14 | NC |
| +B | A15 | A15 | +B |
| +B | B15 | B15 | +B |
| GND | A16 | A16 | GND |
| GND | B16 | B16 | GND |
| G2.C | A17 | A17 | G2.C |
| HV_OCP | B17 | B17 | HV_OCP |
| +15V | A18 | A18 | +15V |
| +15V | B18 | B18 | +15V |
| GND | A19 | A19 | GND |
| GND | B19 | B19 | GND |
| −15V | A20 | A20 | −15V |
| −15V | B20 | B20 | −15V |
| D.F.Y | A21 | A21 | D.F.Y |
| HV.CONT | B21 | B21 | HV.CONT |
| D.F.X | A22 | A22 | D.F.X |
| NC | B22 | B22 | NC |
| NC | A23 | A23 | NC |
| GND | B23 | B23 | GND |
| H.STAT.C | A24 | A24 | H.STAT.C |
| HV.DRV.PROT | B24 | B24 | HV.DRV.PROT |
| +30V | A25 | A25 | +30V |
| +30V | B25 | B25 | +30V |
| GND | A26 | A26 | GND |
| GND | B26 | B26 | GND |
| −30V | A27 | A27 | −30V |
| −30V | B27 | B27 | −30V |
| NC | A28 | A28 | NC |
| NC | B28 | B28 | NC |
| NC | A29 | A29 | NC |
| NC | B29 | B29 | NC |
| ABL | A30 | A30 | ABL |
| AFC.P | B30 | B30 | AFC.P |
| IK_PROTECT | A31 | A31 | IK_PROTECT |
| HV_OVP | B31 | B31 | HV_OVP |
| GND | A32 | A32 | GND |
| GND | B32 | B32 | GND |

| CN1 64P | | | CN2 64P |
|---|---|---|---|
| GND | A1 | A1 | NC |
| GND | B1 | B1 | NC |
| +B | A2 | A2 | NC |
| +B | B2 | B2 | NC |
| GND | A3 | A3 | NC |
| GND | B3 | B3 | NC |
| −15V | A4 | A4 | NC |
| −15V | B4 | B4 | NC |
| +15V | A5 | A5 | NC |
| +15V | B5 | B5 | NC |
| −6V | A6 | A6 | NC |
| −6V | B6 | B6 | NC |
| +6V | A7 | A7 | NC |
| +6V | B7 | B7 | NC |
| GND | A8 | A8 | NC |
| VIDEO | B8 | B8 | NC |
| P.Y. OUT | A9 | A9 | NC |
| P.C. OUT | B9 | B9 | NC |
| GND | A10 | A10 | NC |
| Y/G | B10 | B10 | NC |
| GND | A11 | A11 | NC |
| PB/B | B11 | B11 | NC |
| GND | A12 | A12 | NC |
| PR/R | B12 | B12 | NC |
| $\overline{\text{SLOT\_6}}$ | A13 | A13 | +12V |
| $\overline{\text{SLOT\_7}}$ | B13 | B13 | $\overline{\text{TALLY}}$ |
| $\overline{\text{SLOT\_4}}$ | A14 | A14 | $\overline{\text{OVERLOAD}}$ |
| $\overline{\text{SLOT\_5}}$ | B14 | B14 | $\overline{\text{STANDBY}}$ |
| $\overline{\text{SLOT\_2}}$ | A15 | A15 | $\overline{\text{POWER}}$ |
| $\overline{\text{SLOT\_3}}$ | B15 | B15 | +5V |
| $\overline{\text{SLOT\_0}}$ | A16 | A16 | NC |
| $\overline{\text{SLOT+1}}$ | B16 | B16 | NC |
| GND | A17 | A17 | RTS |
| $\overline{\text{CHAR\_BLANK}}$ | B17 | B17 | GND |
| $\overline{\text{CHAR\_G}}$ | A18 | A18 | N.C |
| $\overline{\text{CHAR\_B}}$ | B18 | B18 | RXD |
| $\overline{\text{CHAR\_R}}$ | A19 | A19 | +5V |
| AFC | B19 | B19 | GND |
| $\overline{\text{H SYNC}}$ | A20 | A20 | $\overline{\text{TXD}}$ |
| $\overline{\text{V SYNC}}$ | B20 | B20 | +5V |
| $\overline{\text{2H SYNC}}$ | A21 | A21 | RXD |
| $\overline{\text{2V SYNC}}$ | B21 | B21 | GND |
| COMP SYNC IN | A22 | A22 | +5V |
| BC HS OUT | B22 | B22 | GND |
| BC VS OUT | A23 | A23 | TXD |
| N.C. | B23 | B23 | $\overline{\text{RXD}}$ |
| BC.VS | A24 | A24 | GND |
| V BLANK1 | B24 | B24 | NC |
| H BLANK | A25 | A25 | NC |
| V BLANK2 | B25 | B25 | NC |
| N.C. | A26 | A26 | NC |
| RESET | B26 | B26 | NC |
| SAMPLE PULSE | A27 | A27 | NC |
| MISO | B27 | B27 | NC |
| MOSI | A28 | A28 | NC |
| SCLK | B28 | B28 | NC |
| DIGITAL +5V | A29 | A29 | NC |
| DIGITAL +5V | B29 | B29 | NC |
| DIGITAL GND | A30 | A30 | NC |
| DIGITAL GND | B30 | B30 | NC |
| N.C. | A31 | A31 | NC |
| INT. SG | B31 | B31 | NC |
| GND | A32 | A32 | GND |
| GND | B32 | B32 | GND |

| CN7 40P | |
|---|---|
| 5V | A1 |
| GND | B1 |
| 5V | A2 |
| GND | B2 |
| 5V | A3 |
| GND | B3 |
| 5V | A4 |
| GND | B4 |
| A0 | A5 |
| D07 | B5 |
| A1 | A6 |
| D06 | B6 |
| A2 | A7 |
| D05 | B7 |
| A3 | A8 |
| D04 | B8 |
| A4 | A9 |
| D03 | B9 |
| Y IN | A10 |
| D02 | B10 |
| VITC-DTSE | A11 |
| D01 | B11 |
| $\overline{\text{HS IN}}$ | A12 |
| D00 | B12 |
| RCSI | A13 |
| NC | B13 |
| TTL-VITC | A14 |
| NC | B14 |
| SENCE | A15 |
| CS | B15 |
| CK IN | A16 |
| WR | B16 |
| NC | A17 |
| RD | B17 |
| 525/ $\overline{\text{625}}$ | A18 |
| NC | B18 |
| GND | A19 |
| 5V | B19 |
| GND | A20 |
| 5V | B20 |

| | CN1 64P |
|---|---|
| A1 | GND |
| B1 | GND |
| A2 | +B |
| B2 | +B |
| A3 | GND |
| B3 | GND |
| A4 | −15V |
| B4 | −15V |
| A5 | +15V |
| B5 | +15V |
| A6 | −6V |
| B6 | −6V |
| A7 | +6V |
| B7 | +6V |
| A8 | DU G |
| B8 | DU B |
| A9 | DU R |
| B9 | V.S.P |
| A10 | ABL |
| B10 | G2 CONTROL |
| A11 | GND |
| B11 | Y/G |
| A12 | GND |
| B12 | 2Y/2G |
| A13 | GND |
| B13 | PB/B |
| A14 | GND |
| B14 | 2PB/2B |
| A15 | GND |
| B15 | PR/R |
| A16 | GND |
| B16 | 2PR/2R |
| A17 | GND |
| B17 | CHAR BLK |
| A18 | CHAR G |
| B18 | CHAR B |
| A19 | CHAR R |
| B19 | AFC PULSE |
| A20 | HS |
| B20 | VS |
| A21 | 2HS |
| B21 | 2VS |
| A22 | NC |
| B22 | COMP SYNC |
| A23 | NC |
| B23 | BC-HS |
| A24 | BC-VS |
| B24 | V BLK1 |
| A25 | H.BLK |
| B25 | V BLK2 |
| A26 | +5V SENSE |
| B26 | RESET |
| A27 | S.PULSE |
| B27 | MISO |
| A28 | MOSI |
| B28 | SCLK |
| A29 | DIGITAL +5V |
| B29 | DIGITAL +5V |
| A30 | DIGITAL GND |
| B30 | DIGITAL GND |
| A31 | CH SLOT5 |
| B31 | |
| A32 | GND |
| B32 | GND |

CN5 4P RED :S-MICRO

| | |
|---|---|
| KR | 1 |
| NC | 2 |
| NC | 3 |
| GND | 4 |

CN6 4P WHT :S-MICRO

| | |
|---|---|
| KG | 1 |
| NC | 2 |
| NC | 3 |
| GND | 4 |

CN7 4P BLK :S-MICRO

| | |
|---|---|
| KB | 1 |
| NC | 2 |
| NC | 3 |
| GND | 4 |

CN8 4P WHT :S-MICRO

| | |
|---|---|
| G1 | 1 |
| | 2 |
| GND | 3 |

| CN2 7P | | | CN1 7P |
|---|---|---|---|
| GND | 1 | 1 | GND |
| R IN | 2 | 2 | R IN |
| +5V | 3 | 3 | +5V |
| −5V | 4 | 4 | −5V |
| R OUT | 5 | 5 | R OUT |
| APT CONTROL | 6 | 6 | APT CONTROL |
| GND | 7 | 7 | GND |

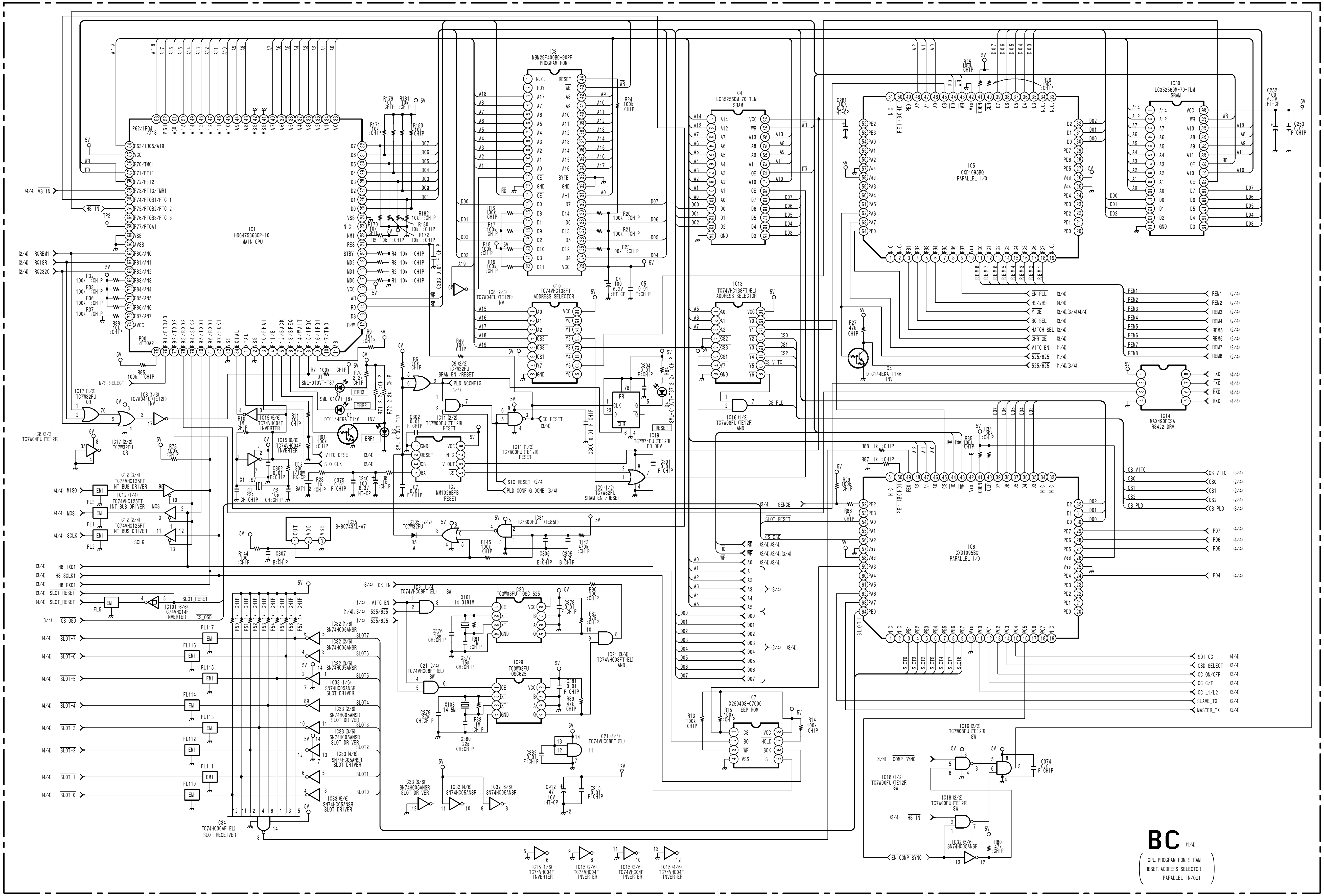
| CN3 7P | | | CN2 7P |
|---|---|---|---|
| GND | 1 | 1 | GND |
| G IN | 2 | 2 | G IN |
| +5V | 3 | 3 | +5V |
| −5V | 4 | 4 | −5V |
| G OUT | 5 | 5 | G OUT |
| APT ON/OFF | 6 | 6 | APT ON/OFF |
| GND | 7 | 7 | GND |

| CN4 7P | | | CN3 7P |
|---|---|---|---|
| GND | 1 | 1 | GND |
| B IN | 2 | 2 | B IN |
| +5V | 3 | 3 | +5V |
| −5V | 4 | 4 | −5V |
| B OUT | 5 | 5 | B OUT |
| GND | 6 | 6 | GND |
| GND | 7 | 7 | GND |

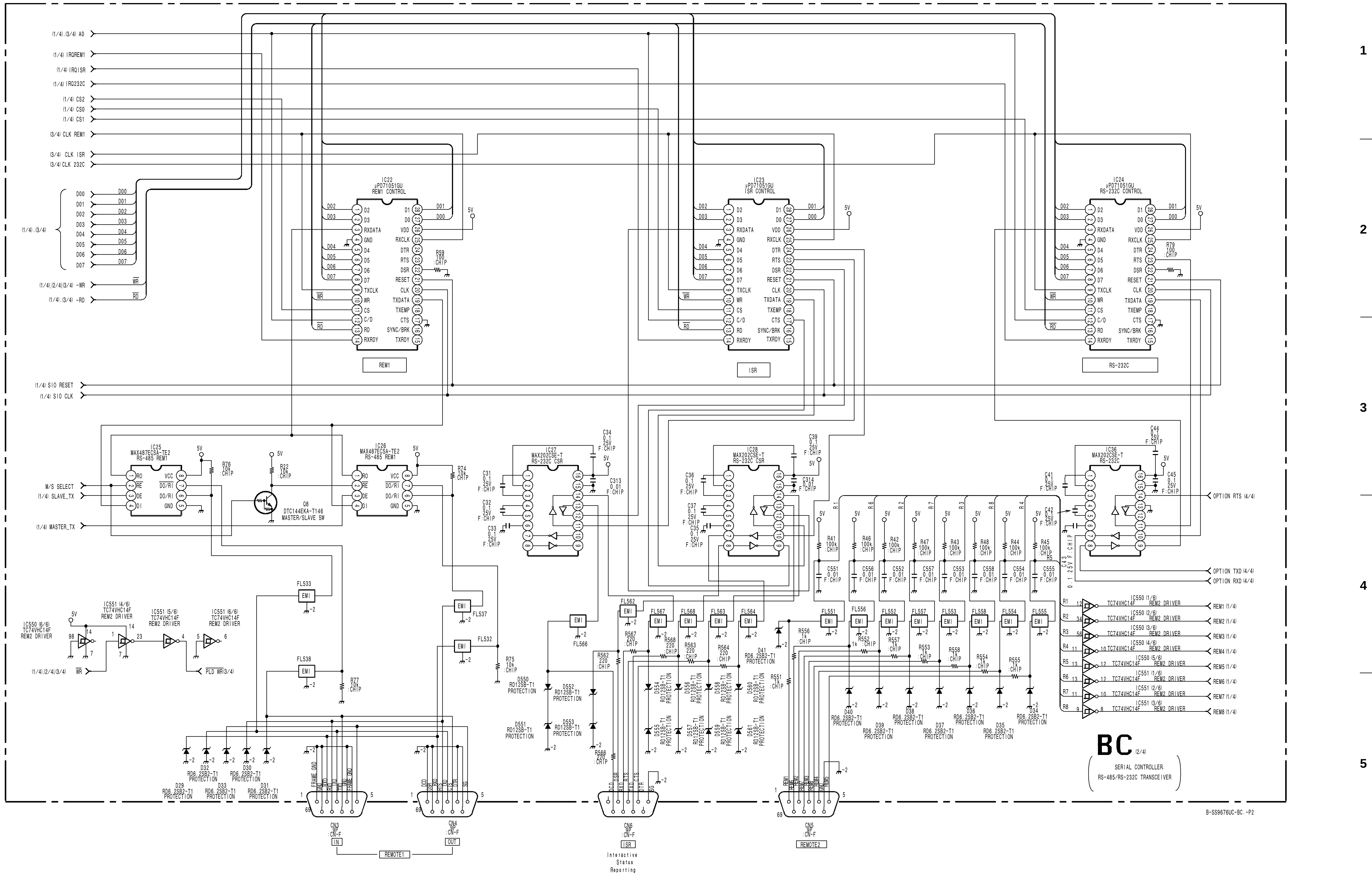
24 inch model

## FRAME (3/3)

## 11-2. Schematic Diagrams and Printed Wiring Boards

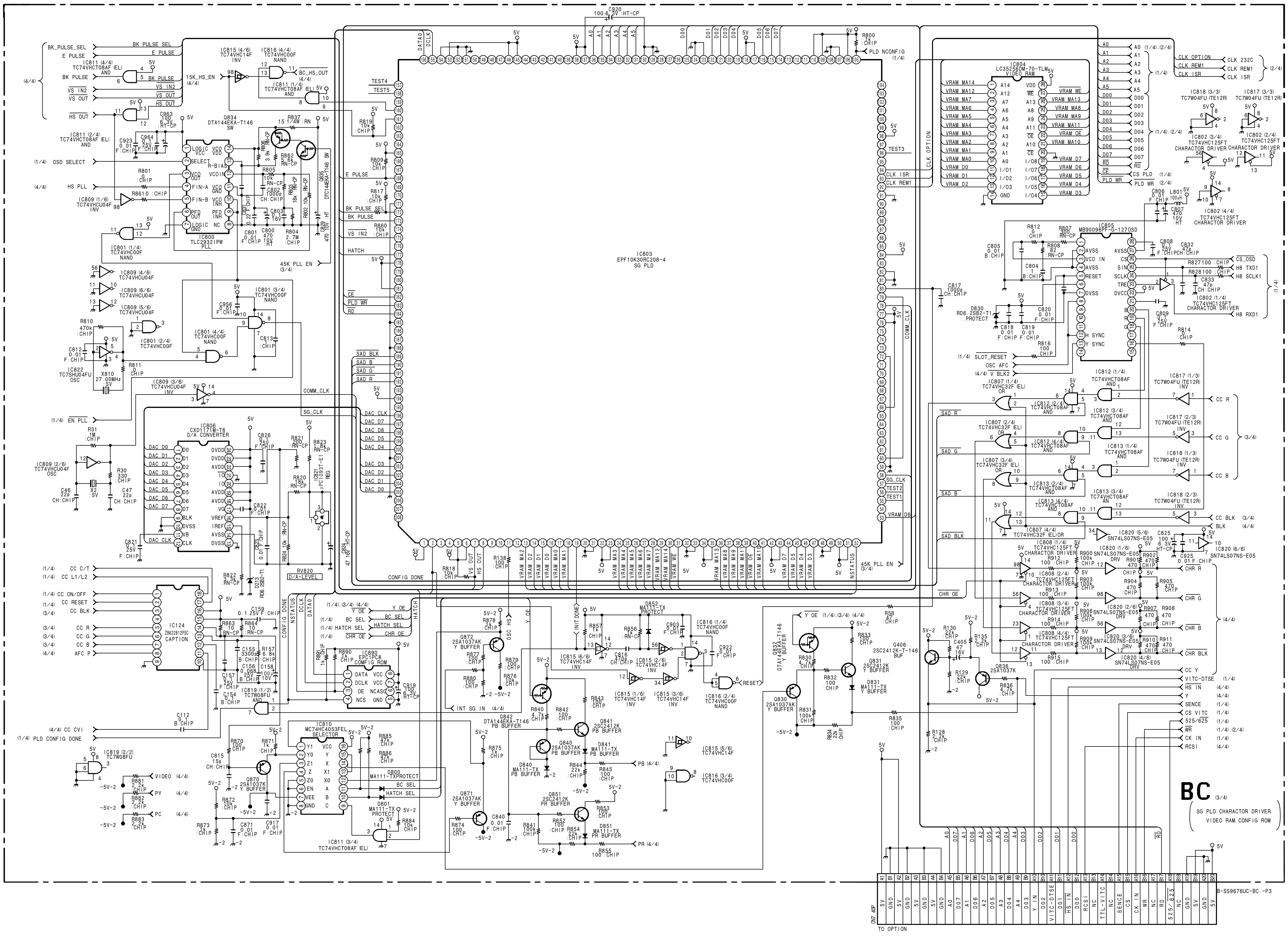

1
2
3
4
5
A
B
C
D
E
F
G
H
IC1 HD6475368CP-10 MAIN CPU
IC3 MBM29F400BC-90PF PROGRAM ROM
IC4 LC35256DM-70-TLM SRAM
IC5 CXD1095BQ PARALLEL I/O
IC30 LC35256DM-70-TLM SRAM
IC10 TC74VHC138FT ADDRESS SELECTOR
IC13 TC74VHC138FT (EL) ADDRESS SELECTOR
IC2 MM1026BFB RESET
IC6 CXD1095BQ PARALLEL I/O
IC7 X25040S-C7000 EEP ROM
IC14 MAX490ECSA RS422 DRV
IC20 TC3W03FU OSC 525
IC29 TC3W03FU OSC625
IC34 TC74HC30AF (EL) SLOT RECEIVER
IC35 S-80743AL-A7
IC12 TC74VHC125FT INT BUS DRIVER
IC32 SN74HC05ANSR SLOT DRIVER
IC33 SN74HC05ANSR SLOT DRIVER
IC15 TC74VHC04F INVERTER
IC101 TC74VHC14F INVERTER
IC9 TC7W32FU SRAM EN /RESET
IC11 TC7W00FU (TE12R) RESET
IC16 TC7W08FU (TE12R) AND
IC18 TC7W00FU (TE12R) SW
IC19 TC7W74FU (TE12R) LED DRV
IC21 TC74VHC08FT (EL) AND
Q1 DTC144EKA-T146 INV
Q4 DTC144EKA-T146 INV
X1 20M
X101 14.3181M
X103 14.5M
(4/4) VS IN
HS IN
(2/4) IRQREM1
(2/4) IRQ1SR
(2/4) IRQ232C
M/S SELECT
(4/4) MISO
(4/4) MOSI
(4/4) SCLK
H8 TXD1
H8 SCLK1
H8 RXD1
SLOT_RESET
CS_OSD
SLOT-7
SLOT-6
SLOT-5
SLOT-4
SLOT-3
SLOT-2
SLOT-1
SLOT-0
VITC EN
525/625
CK IN
SIO CLK
SIO RESET
PLD CONFIG DONE
PLD NCONFIG
CC RESET
EN PLL
HS/2HS
V OE
BC SEL
HATCH SEL
CHR OE
VITC EN
REM1
REM2
REM3
REM4
REM5
REM6
REM7
REM8
TXD
RXD
CS VITC
CS0
CS1
CS2
CS PLD
PD7
PD6
PD5
PD4
SDI CC
OSD SELECT
CC ON/OFF
CC C/T
CC L1/L2
SLAVE_TX
MASTER_TX
COMP SYNC
EN COMP SYNC
SENCE
BC (1/4)
CPU PROGRAM ROM S-RAM
RESET, ADDRESS SELECTOR
PARALLEL IN/OUT
B-SS9676UC-BC:-P1

BC (2/4)

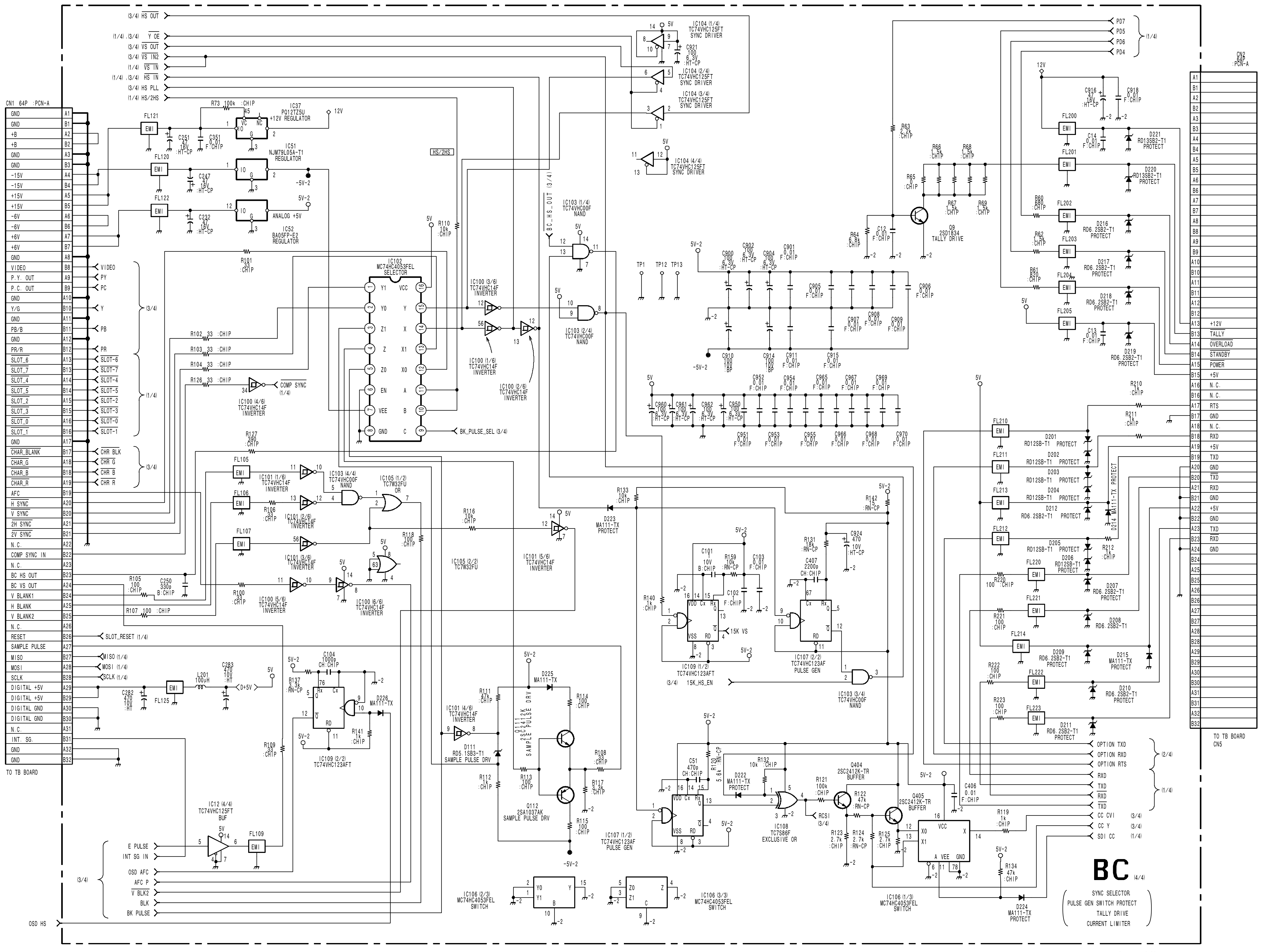

(1/4),(3/4) A0
(1/4) IRQREM1
(1/4) IRQISR
(1/4) IRQ232C
(1/4) CS2
(1/4) CS0
(1/4) CS1
(3/4) CLK REM1
(3/4) CLK ISR
(3/4) CLK 232C
D00
D01
D02
D03
D04
D05
D06
D07
(1/4),(3/4)
(1/4),(2/4),(3/4) -WR
(1/4),(3/4) -RD
IC22 μPD71051GU REM1 CONTROL
IC23 μPD71051GU ISR CONTROL
IC24 μPD71051GU RS-232C CONTROL
D2
D3
RXDATA
GND
D4
D5
D6
D7
TXCLK
WR
CS
C/D
RD
RXRDY
D1
D0
VDD
RXCLK
DTR
RTS
DSR
RESET
CLK
TXDATA
TXEMP
CTS
SYNC/BRK
TXRDY
5V
R59 100 :CHIP
R79 100 :CHIP
REM1
ISR
RS-232C
(1/4) SIO RESET
(1/4) SIO CLK
IC25 MAX487ECSA-TE2 RS-485 REM1
IC26 MAX487ECSA-TE2 RS-485 REM1
RO
RE
DE
DI
VCC
DO/RI
GND
R76 10k :CHIP
R22 10k :CHIP
R74 10k :CHIP
Q8 DTC144EKA-T146 MASTER/SLAVE SW
M/S SELECT
(1/4) SLAVE_TX
(1/4) MASTER_TX
IC27 MAX202CSE-T RS-232C CSR
IC28 MAX202CSE-T RS-232C CSR
IC36 MAX202CSE-T RS-232C
C34 0.1 25V F:CHIP
C39 0.1 25V F:CHIP
C44 0.1 25V F:CHIP
C31 0.1 25V F:CHIP
C32 0.1 25V F:CHIP
C33 0.1 25V F:CHIP
C313 0.01 F:CHIP
C36 0.1 25V F:CHIP
C37 0.1 25V F:CHIP
C35 0.1 25V F:CHIP
C314 0.01 F:CHIP
C41 0.1 25V F:CHIP
C42 0.1 25V F:CHIP
C43 0.1 25V F:CHIP
C45 0.1 25V F:CHIP
OPTION RTS (4/4)
OPTION TXD (4/4)
OPTION RXD (4/4)
R1
R2
R3
R4
R5
R6
R7
R8
R41 100k :CHIP
R46 100k :CHIP
R42 100k :CHIP
R47 100k :CHIP
R43 100k :CHIP
R48 100k :CHIP
R44 100k :CHIP
R45 100k :CHIP
C551 0.01 F:CHIP
C556 0.01 F:CHIP
C552 0.01 F:CHIP
C557 0.01 F:CHIP
C553 0.01 F:CHIP
C558 0.01 F:CHIP
C554 0.01 F:CHIP
C555 0.01 F:CHIP
IC550 (1/6) TC74VHC14F REM2 DRIVER
IC550 (2/6) TC74VHC14F REM2 DRIVER
IC550 (3/6) TC74VHC14F REM2 DRIVER
IC550 (4/6) TC74VHC14F REM2 DRIVER
IC550 (5/6) TC74VHC14F REM2 DRIVER
IC551 (1/6) TC74VHC14F REM2 DRIVER
IC551 (2/6) TC74VHC14F REM2 DRIVER
IC551 (3/6) TC74VHC14F REM2 DRIVER
REM1 (1/4)
REM2 (1/4)
REM3 (1/4)
REM4 (1/4)
REM5 (1/4)
REM6 (1/4)
REM7 (1/4)
REM8 (1/4)
IC550 (6/6) TC74VHC14F REM2 DRIVER
IC551 (4/6) TC74VHC14F REM2 DRIVER
IC551 (5/6) TC74VHC14F REM2 DRIVER
IC551 (6/6) TC74VHC14F REM2 DRIVER
(1/4),(2/4),(3/4) WR
PLD WR(3/4)
FL533
FL538
FL537
FL532
FL566
FL562
FL567
FL568
FL563
FL564
FL551
FL556
FL552
FL557
FL553
FL558
FL554
FL555
EMI
R75 10k :CHIP
R77 10k :CHIP
D550 RD12SB-T1 PROTECTION
D551 RD12SB-T1 PROTECTION
D552 RD12SB-T1 PROTECTION
D553 RD12SB-T1 PROTECTION
R562 220 :CHIP
R567 220 :CHIP
R568 220 :CHIP
R563 220 :CHIP
R564 220 :CHIP
R566 220 :CHIP
D41 RD6.2SB2-T1 PROTECTION
R551 1k :CHIP
R556 1k :CHIP
R552 1k :CHIP
R557 1k :CHIP
R553 1k :CHIP
R558 1k :CHIP
R554 1k :CHIP
R555 1k :CHIP
D554 RD12SB-T1 PROTECTION
D555 RD12SB-T1 PROTECTION
D556 RD12SB-T1 PROTECTION
D557 RD12SB-T1 PROTECTION
D558 RD12SB-T1 PROTECTION
D559 RD12SB-T1 PROTECTION
D560 RD12SB-T1 PROTECTION
D561 RD12SB-T1 PROTECTION
D40 RD6.2SB2-T1 PROTECTION
D39 RD6.2SB2-T1 PROTECTION
D38 RD6.2SB2-T1 PROTECTION
D37 RD6.2SB2-T1 PROTECTION
D36 RD6.2SB2-T1 PROTECTION
D35 RD6.2SB2-T1 PROTECTION
D34 RD6.2SB2-T1 PROTECTION
D29 RD6.2SB2-T1 PROTECTION
D32 RD6.2SB2-T1 PROTECTION
D33 RD6.2SB2-T1 PROTECTION
D30 RD6.2SB2-T1 PROTECTION
D31 RD6.2SB2-T1 PROTECTION
FRAME GND
RXD
TXD
CN3 9P :CN-F IN
CN4 9P :CN-F OUT
REMOTE1
DCD
DSR
RXD
RTS
TXD
CTS
DTR
SG
CN6 9P :CN-F ISR
Interactive Status Reporting
REM1
REM2
REM3
REM4
REM5
CN5 9P :CN-F REMOTE2
BC (2/4)
SERIAL CONTROLLER RS-485/RS-232C TRANSCEIVER
B-SS9676UC-BC.-P2
1
2
3
4
5
A
B
C
D
E
F
G
H

11-9

BC (3/4)


IC803
EPF10K30RC208-4
SG PLD
IC804
LC352560M-70-TLM
VIDEO RAM
IC805
MB90096PF-G-127OSD
IC806
CXD1171M-T6
D/A CONVERTER
IC800
TLC2932IPW
PLL
IC810
MC74HC4053FEL
SELECTOR
IC890
EPC1PC8
CONFIG ROM
IC124
Z8622812PSC
CAPTION
X810
27.00MHz
CN7 40P
TO OPTION
B-SS9676UC-BC.-P3
BC (3/4)
SG PLD, CHARACTOR DRIVER,
VIDEO RAM, CONFIG ROM
1
2
3
4
5

11-10

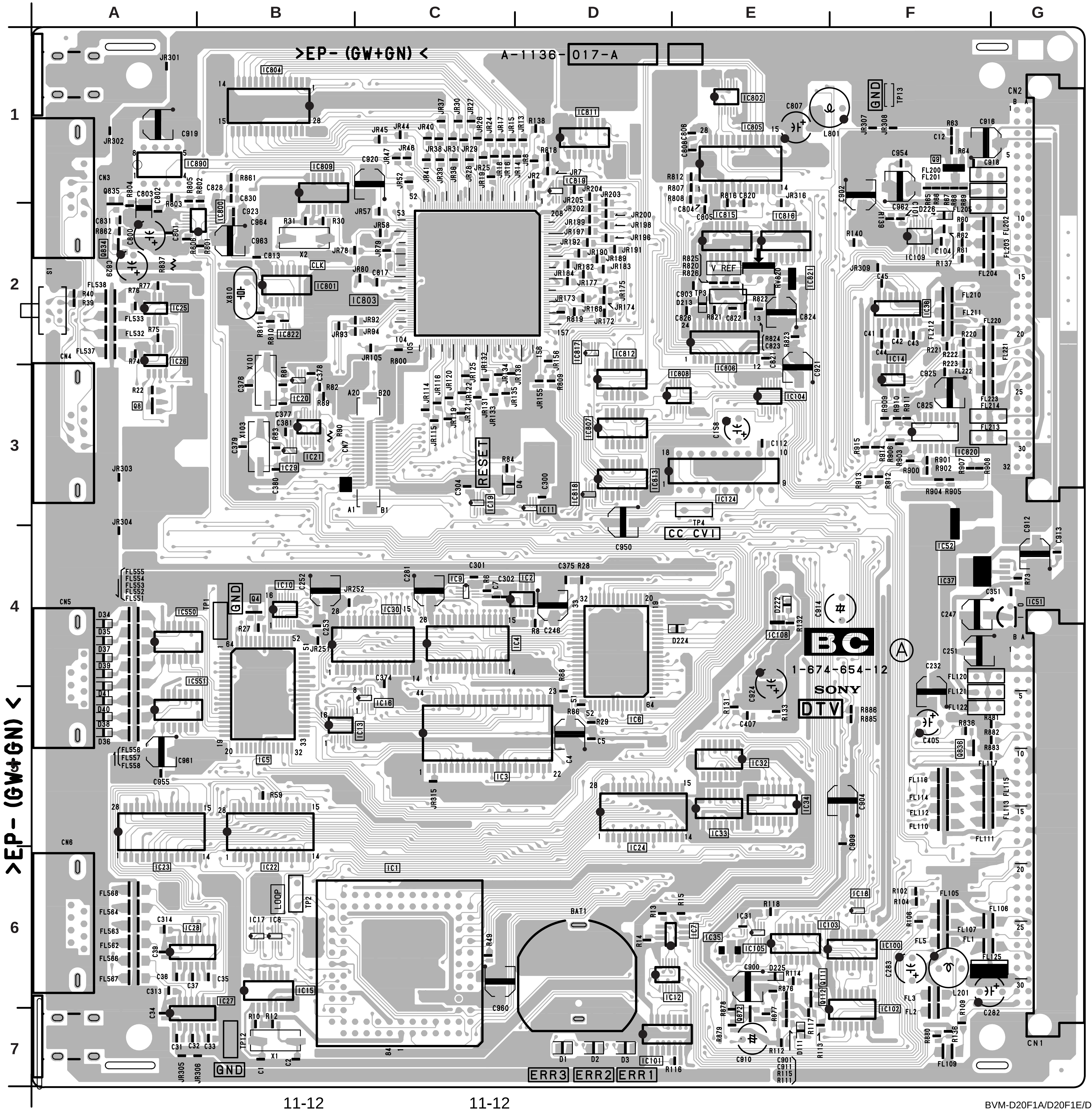

CN1 64P :PCN-A
TO TB BOARD
GND
+B
-15V
+15V
-6V
+6V
VIDEO
P.Y. OUT
P.C. OUT
Y/G
PB/B
PR/R
SLOT_6
SLOT_7
SLOT_4
SLOT_5
SLOT_2
SLOT_3
SLOT_0
SLOT_1
CHAR_BLANK
CHAR_G
CHAR_B
CHAR_R
AFC
H SYNC
V SYNC
2H SYNC
2V SYNC
N.C.
COMP SYNC IN
BC HS OUT
BC VS OUT
V BLANK1
H BLANK
V BLANK2
RESET
SAMPLE PULSE
MISO
MOSI
SCLK
DIGITAL +5V
DIGITAL GND
INT. SG.
(3/4) HS OUT
(1/4),(3/4) Y OE
(3/4) VS OUT
(3/4) VS IN2
(1/4) VS IN
(1/4),(3/4) HS IN
(3/4) HS PLL
(1/4) HS/2HS
FL121
FL120
FL122
EMI
R73 100k :CHIP
IC37 PQ12TZ5U +12V REGULATOR
12V
IC51 NJM79L05A-T1 REGULATOR
-5V-2
IC52 BA05FP-E2 REGULATOR
ANALOG +5V
C251 47 16V :HT-CP
C351 0.01 F:CHIP
C247 47 16V :HT-CP
C232 47 16V :HT-CP
HS/2HS
R101 33 :CHIP
IC102 MC74HC4053FEL SELECTOR
Y1 Y0 Z1 Z X1 X0 EN VEE GND VCC Y X B A C
BK_PULSE_SEL (3/4)
R102 33 :CHIP
R103 33 :CHIP
R104 33 :CHIP
R126 33 :CHIP
COMP SYNC (1/4)
IC100 (4/6) TC74VHC14F INVERTER
IC100 (3/6) TC74VHC14F INVERTER
IC100 (1/6) TC74VHC14F INVERTER
IC100 (2/6) TC74VHC14F INVERTER
R110 10k :CHIP
BC_HS_OUT (3/4)
IC103 (1/4) TC74VHC00F NAND
IC103 (2/4) TC74VHC00F NAND
IC104 (1/4) TC74VHC125FT SYNC DRIVER
IC104 (2/4) TC74VHC125FT SYNC DRIVER
IC104 (3/4) TC74VHC125FT SYNC DRIVER
IC104 (4/4) TC74VHC125FT SYNC DRIVER
C921 100 6.3V :HT-CP
TP1 TP12 TP13
C900 C902 C904 C901 C905 C906 C907 C908 C909 C910 C914 C911 C915
C960 C961 C962 C950 C952 C954 C965 C967 C969 C951 C953 C955 C966 C968 C970
R127 390 :CHIP
FL105 FL106 FL107
IC101 (1/6) TC74VHC14F INVERTER
IC103 (4/4) TC74VHC00F NAND
IC105 (1/2) TC7W32FU OR
IC101 (2/6) TC74VHC14F INVERTER
IC101 (3/6) TC74VHC14F INVERTER
R106 33 :CHIP
R116 10k :CHIP
R118 100 :CHIP
IC105 (2/2) TC7W32FU
IC101 (5/6) TC74VHC14F INVERTER
IC100 (5/6) TC74VHC14F INVERTER
IC100 (6/6) TC74VHC14F INVERTER
R105 100 :CHIP
C250 330p B:CHIP
R100 33 :CHIP
R107 100 :CHIP
SLOT_RESET (1/4)
MISO (1/4)
MOSI (1/4)
SCLK (1/4)
FL125
L201 100uH
C283 470 10V :HT
C282 470 10V :HT
D+5V
C104 1000p CH:CHIP
R137 3.3k :RN-CP
IC109 (2/2) TC74VHC123AFT
D226 MA111-TX
R141 1k :CHIP
R109 33 :CHIP
IC12 (4/4) TC74VHC125FT BUF
FL109
E PULSE
INT SG IN
OSD AFC
AFC P
V BLK2
BLK
BK PULSE
OSD HS
IC101 (4/6) TC74VHC14F INVERTER
D111 RD5.1SB3-T1 SAMPLE PULSE DRV
R111 47k :CHIP
R112 1k :CHIP
D225 MA111-TX
Q111 2SC2412K SAMPLE PULSE DRV
Q112 2SA1037AK SAMPLE PULSE DRV
R113 100 :CHIP
R114 100 :CHIP
R115 100 :CHIP
R117 3.3k :CHIP
R108 33 :CHIP
IC106 (2/3) MC74HC4053FEL SWITCH
IC106 (3/3) MC74HC4053FEL SWITCH
R133 10k :CHIP
D223 MA111-TX PROTECT
R140 1k :CHIP
C101 10V B:CHIP
R159 10k :RN-CP
C103 F:CHIP
C102 F:CHIP
IC109 (1/2) TC74VHC123AFT
15K VS
(3/4) 15K_HS_EN
R131 18k :RN-CP
C407 2200p CH:CHIP
C924 470 10V :HT-CP
R142 15k :RN-CP
IC107 (2/2) TC74VHC123AF PULSE GEN
IC103 (3/4) TC74VHC00F NAND
C51 470p CH:CHIP
R120 5.6k :RN-CP
D222 MA111-TX PROTECT
R132 10k :CHIP
IC107 (1/2) TC74VHC123AF PULSE GEN
IC108 TC7S86F EXCLUSIVE OR
RCSI (3/4)
R121 100k :CHIP
Q404 2SC2412K-TR BUFFER
R122 47k :RN-CP
Q405 2SC2412K-TR BUFFER
R123 2.7k :CHIP
R124 2.7k :RN-CP
R125 2.7k :CHIP
C406 0.01 F:CHIP
IC106 (1/3) MC74HC4053FEL SWITCH
R119 1k :CHIP
R134 47k :CHIP
D224 MA111-TX PROTECT
CC CVI (3/4)
CC Y (3/4)
SDI CC (1/4)
OPTION TXD
OPTION RXD
OPTION RTS
RXD
TXD
(2/4)
(1/4)
PD7 PD6 PD5 PD4
C916 47 16V :HT-CP
C918 0.01 F:CHIP
R63 2.2k :CHIP
R66 1.5k :CHIP
R68 1.5k :CHIP
R65 0 :CHIP
R67 1.5k :CHIP
R69 1.5k :CHIP
R64 6.8k :CHIP
C12 0.01 F:CHIP
Q9 2SD1834 TALLY DRIVE
FL200 FL201 FL202 FL203 FL204 FL205
C14 0.01 F:CHIP
C13 0.01 F:CHIP
D221 RD13SB2-T1 PROTECT
D220 RD13SB2-T1 PROTECT
D216 RD6.2SB2-T1 PROTECT
D217 RD6.2SB2-T1 PROTECT
D218 RD6.2SB2-T1 PROTECT
D219 RD6.2SB2-T1 PROTECT
R60 680 :CHIP
R62 1.5k :CHIP
R61 820 :CHIP
R210 1k :CHIP
R211 1k :CHIP
R212 1k :CHIP
FL210 FL211 FL213 FL212 FL220 FL221 FL214 FL222 FL223
D201 RD12SB-T1 PROTECT
D202 RD12SB-T1 PROTECT
D203 RD12SB-T1 PROTECT
D204 RD12SB-T1 PROTECT
D212 RD6.2SB2-T1 PROTECT
D214 MA111-TX PROTECT
D205 RD12SB-T1 PROTECT
D206 RD12SB-T1 PROTECT
D207 RD6.2SB2-T1 PROTECT
D208 RD6.2SB2-T1
D209 RD6.2SB2-T1 PROTECT
D215 MA111-TX PROTECT
D210 RD6.2SB2-T1 PROTECT
D211 RD6.2SB2-T1 PROTECT
R220 100 :CHIP
R221 100 :CHIP
R222 100 :CHIP
R223 100 :CHIP
CN2 32P :PCN-A
TO TB BOARD CN5
+12V
TALLY
OVERLOAD
STANDBY
POWER
+5V
N.C.
RTS
GND
RXD
TXD
BC (4/4)
SYNC SELECTOR
PULSE GEN SWITCH PROTECT
TALLY DRIVE
CURRENT LIMITER
B-SS9676UC-BC.-P4
1 2 3 4 5
A B C D E F G H

## BC BOARD

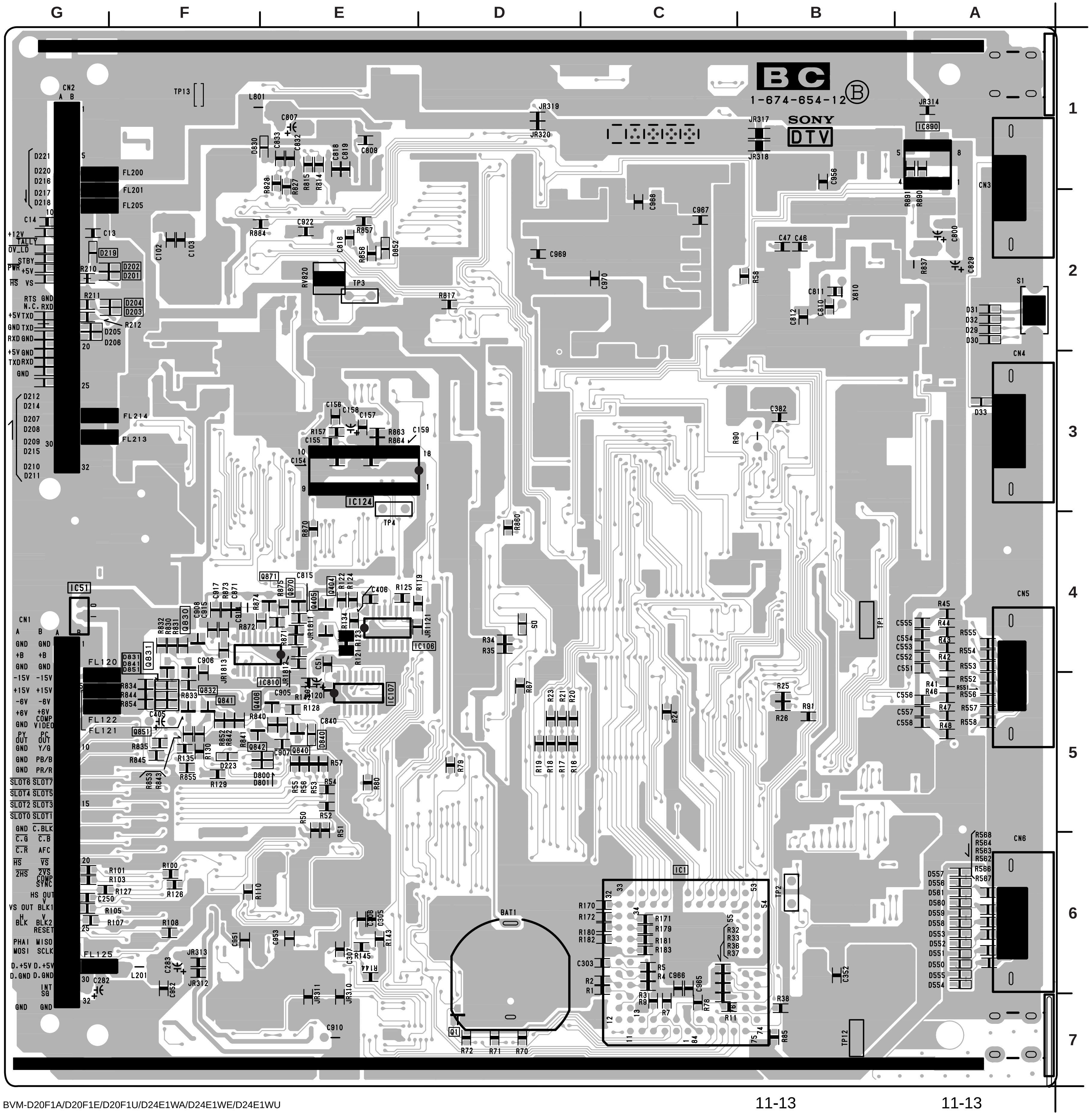
*: B SIDE

| | |
|---|---|
| D1 | D-7 |
| D2 | D-7 |
| D3 | D-7 |
| D4 | C-3 |
| D29 | * A-2 |
| D30 | * A-2 |
| D31 | * A-2 |
| D32 | * A-2 |
| D33 | * A-3 |
| D34 | A-4 |
| D35 | A-4 |
| D36 | A-5 |
| D37 | A-4 |
| D38 | A-5 |
| D39 | A-4 |
| D40 | A-5 |
| D41 | A-4 |
| D111 | E-7 |
| D201 | * F-2 |
| D202 | * F-2 |
| D203 | * F-2 |
| D204 | * F-2 |
| D205 | * G-2 |
| D206 | * G-2 |
| D207 | * G-2 |
| D208 | * G-2 |
| D209 | * G-3 |
| D210 | * G-3 |
| D211 | * G-3 |
| D212 | * G-2 |
| D213 | E-2 |
| D214 | * G-2 |
| D215 | * G-3 |
| D216 | * G-2 |
| D217 | * G-2 |
| D218 | * G-2 |
| D219 | * G-2 |
| D220 | * G-2 |
| D221 | * G-2 |
| D222 | E-4 |
| D223 | * F-5 |
| D224 | E-4 |
| D225 | E-6 |
| D550 | * A-6 |
| D551 | * A-6 |
| D552 | * A-6 |
| D553 | * A-6 |
| D554 | * A-6 |
| D555 | * A-6 |
| D556 | * A-6 |
| D557 | * A-6 |
| D558 | * A-6 |
| D559 | * A-6 |
| D560 | * A-6 |
| D561 | * A-6 |
| D800 | * F-5 |
| D801 | * F-5 |
| D830 | * E-1 |
| D831 | * F-5 |
| D840 | * E-5 |
| D841 | * F-5 |
| D851 | * F-5 |
| D852 | * E-2 |
| IC2 | D-4 |
| IC3 | C-5 |
| IC4 | C-4 |
| IC5 | B-5 |
| IC6 | D-4 |
| IC7 | E-6 |
| IC8 | B-6 |
| IC9 | C-4 |
| IC10 | B-4 |
| IC11 | D-3 |
| IC12 | E-6 |
| IC13 | B-5 |
| IC14 | F-3 |
| IC15 | B-6 |
| IC16 | C-5 |
| IC17 | B-6 |
| IC18 | F-6 |
| IC19 | C-3 |
| IC20 | B-3 |
| IC21 | B-3 |
| IC22 | B-5 |
| IC23 | A-5 |
| IC24 | D-5 |
| IC25 | A-2 |
| IC26 | A-2 |
| IC27 | A-7 |
| IC28 | A-6 |
| IC29 | B-3 |
| IC32 | E-5 |
| IC33 | E-5 |
| IC34 | E-5 |
| IC36 | F-2 |
| IC37 | F-4 |
| IC51 | * G-4 |
| IC52 | F-3 |
| IC100 | F-6 |
| IC101 | E-7 |
| IC102 | F-7 |
| IC103 | E-6 |
| IC104 | E-3 |
| IC105 | E-6 |
| IC106 | * E-4 |
| IC107 | * E-5 |
| IC108 | E-4 |
| IC124 | E-3 |
| IC550 | A-4 |
| IC551 | A-5 |
| IC800 | B-2 |
| IC801 | B-2 |
| IC802 | E-1 |
| IC804 | B-1 |
| IC805 | E-1 |
| IC806 | E-2 |
| IC807 | D-3 |
| IC808 | E-3 |
| IC809 | B-1 |
| IC810 | * F-4 |
| IC811 | D-1 |
| IC812 | D-3 |
| IC813 | D-3 |
| IC815 | E-2 |
| IC816 | E-2 |
| IC817 | D-2 |
| IC818 | D-3 |
| IC819 | D-1 |
| IC820 | F-3 |
| IC821 | E-2 |
| IC822 | B-3 |
| Q1 | * D-7 |
| Q4 | B-4 |
| Q8 | A-3 |
| Q9 | F-1 |
| Q111 | E-6 |
| Q112 | E-6 |
| Q404 | * E-4 |
| Q405 | * E-4 |
| Q406 | * E-5 |
| Q830 | * F-4 |
| Q831 | * F-4 |
| Q832 | * F-4 |
| Q833 | |
| Q834 | A-2 |
| Q835 | A-2 |
| Q840 | * E-5 |
| Q841 | * F-5 |
| Q842 | * E-5 |
| Q851 | * F-5 |
| Q870 | * E-4 |
| Q871 | * F-4 |
| Q872 | E-7 |
| TP1 | B-4 |
| TP2 | B-6 |
| TP3 | E-2 |
| TP12 | B-7 |
| TP13 | F-1 |

## BC BOARD



**BC –A SIDE–**
SUFFIX: -12


G
F
E
D
C
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A
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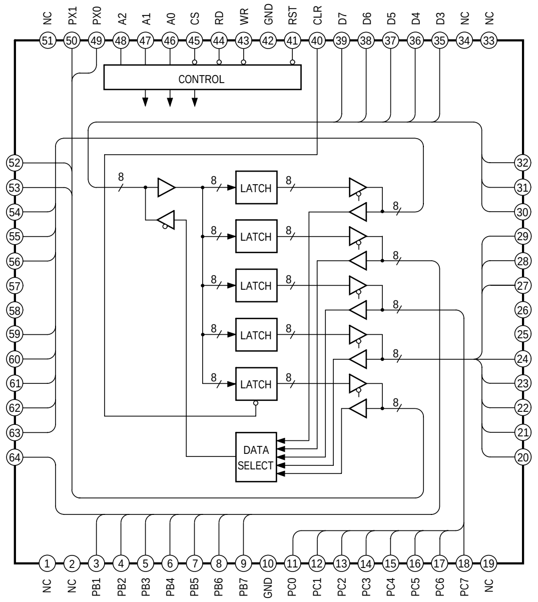
B C
1-674-654-12
Ⓑ
SONY
DTV
CN2
CN1
CN3
CN4
CN5
CN6
S1
IC1
IC51
IC107
IC108
IC124
IC810
IC890
BAT1
TP1
TP2
TP3
TP4
TP12
TP13
FL200
FL201
FL205
FL214
FL213
FL120
FL122
FL121
FL125
L801
L201
Q1
X810
RV820

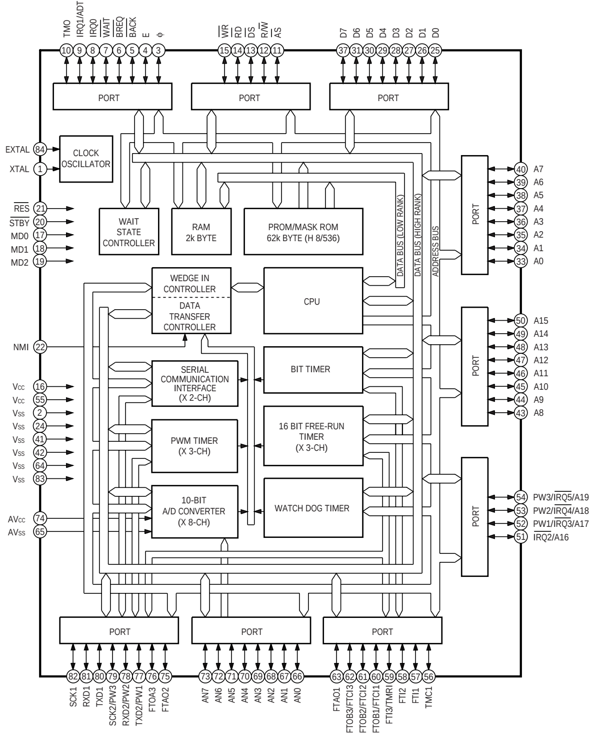
## BC –B SIDE–

SUFFIX: -12

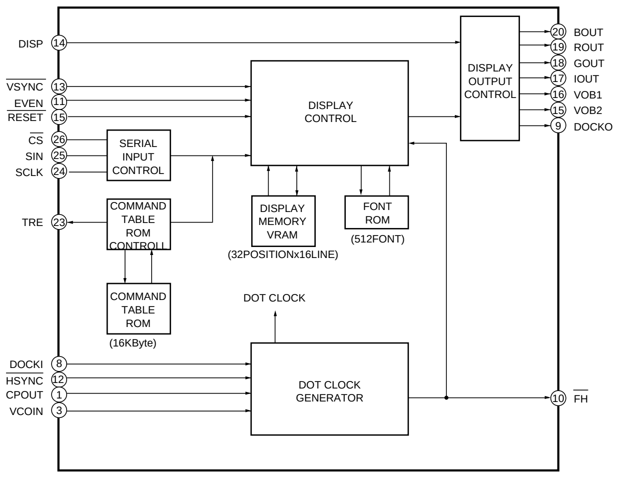
## CXD1095BQ (IC5, 6)


CONTROL
LATCH
DATA SELECT
PX2
PX3
PA0
PA1
PA2
GND
VDD
PA3
PA4
PA5
PA6
PA7
PB0
D2
D1
D0
PD7
PD6
PD5
VDD
GND
PD4
PD3
PD2
PD1
PD0

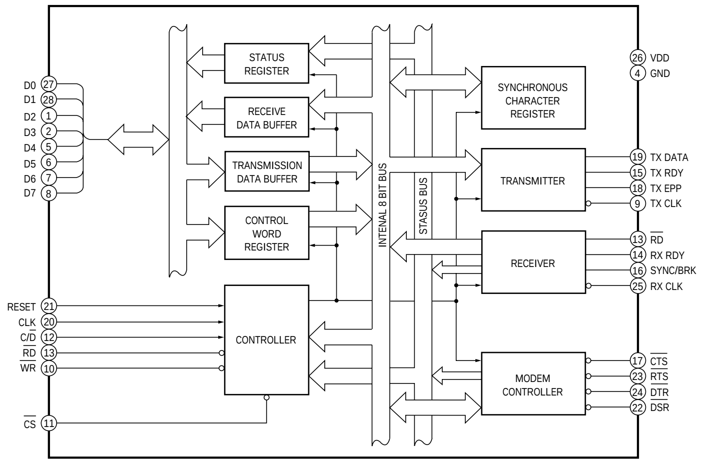
## HD6475368CP-10 (IC1)


PORT
CLOCK OSCILLATOR
WAIT STATE CONTROLLER
RAM 2k BYTE
PROM/MASK ROM 62k BYTE (H 8/536)
WEDGE IN CONTROLLER
DATA TRANSFER CONTROLLER
CPU
SERIAL COMMUNICATION INTERFACE (X 2-CH)
BIT TIMER
PWM TIMER (X 3-CH)
16 BIT FREE-RUN TIMER (X 3-CH)
10-BIT A/D CONVERTER (X 8-CH)
WATCH DOG TIMER
DATA BUS (LOW RANK)
DATA BUS (HIGH RANK)
ADDRESS BUS
EXTAL
XTAL
RES
STBY
MD0
MD1
MD2
NMI
AVCC
AVSS

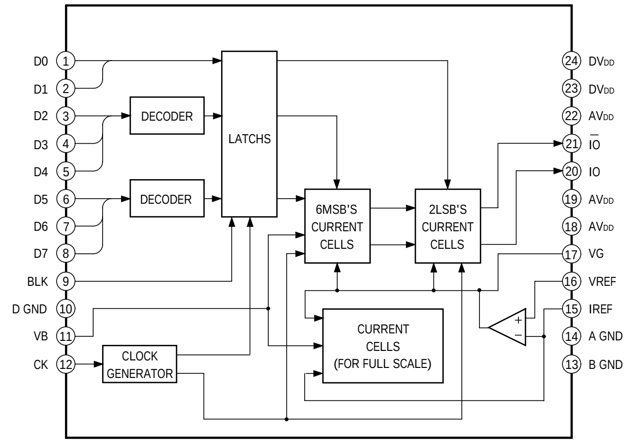
## MB90096PF-G-127 (IC805)


DISP
VSYNC
EVEN
RESET
CS
SIN
SCLK
TRE
DOCKI
HSYNC
CPOUT
VCOIN
SERIAL INPUT CONTROL
COMMAND TABLE ROM CONTROL
COMMAND TABLE ROM
(16KByte)
DISPLAY CONTROL
DISPLAY MEMORY VRAM
(32POSITIONx16LINE)
FONT ROM
(512FONT)
DISPLAY OUTPUT CONTROL
DOT CLOCK
DOT CLOCK GENERATOR
BOUT
ROUT
GOUT
IOUT
VOB1
VOB2
DOCKO
FH

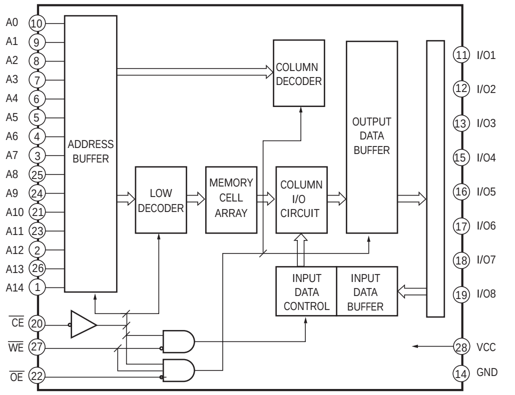
## μPD71051GU (IC22, 23, 24)


STATUS REGISTER
RECEIVE DATA BUFFER
TRANSMISSION DATA BUFFER
CONTROL WORD REGISTER
CONTROLLER
SYNCHRONOUS CHARACTER REGISTER
TRANSMITTER
RECEIVER
MODEM CONTROLLER
INTENAL 8 BIT BUS
STASUS BUS
D0
D1
D2
D3
D4
D5
D6
D7
RESET
CLK
C/D
RD
WR
CS
VDD
GND
TX DATA
TX RDY
TX EPP
TX CLK
RD
RX RDY
SYNC/BRK
RX CLK
CTS
RTS
DTR
DSR

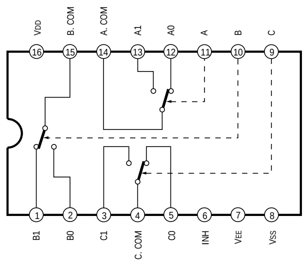
## CXD1171M-T6 (IC806)


DECODER
LATCHS
6MSB'S CURRENT CELLS
2LSB'S CURRENT CELLS
CURRENT CELLS (FOR FULL SCALE)
CLOCK GENERATOR
D0
D1
D2
D3
D4
D5
D6
D7
BLK
D GND
VB
CK
DVDD
AVDD
IO
VG
VREF
IREF
A GND
B GND

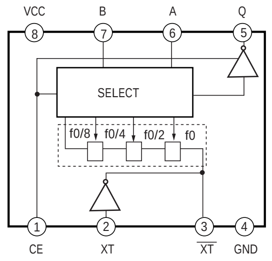
## LC35256DM-70-TLM (IC4, 30, 804)


ADDRESS BUFFER
LOW DECODER
MEMORY CELL ARRAY
COLUMN DECODER
COLUMN I/O CIRCUIT
OUTPUT DATA BUFFER
INPUT DATA CONTROL
INPUT DATA BUFFER
CE
WE
OE
VCC
GND

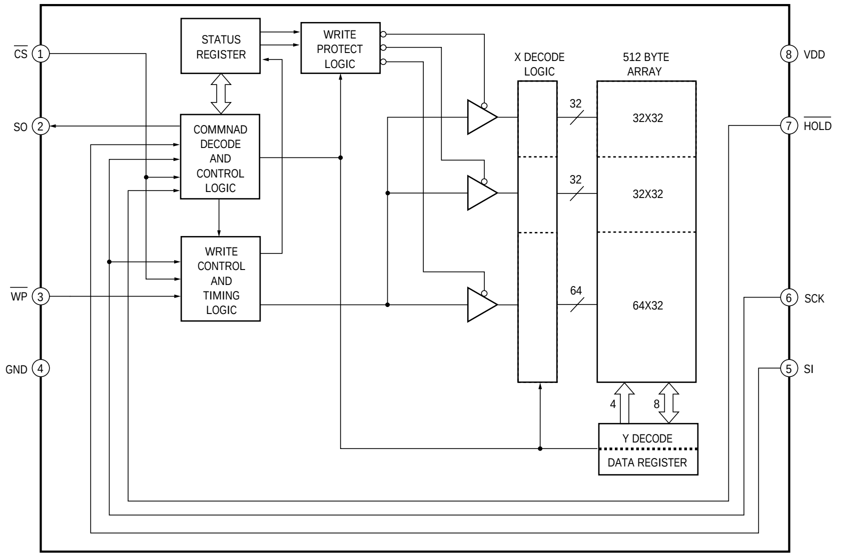
## MC74HC4053FEL (IC102, 106, 810)


VDD
B. COM
A. COM
A1
A0
A
B
C
B1
B0
C1
C. COM
C0
INH
VEE
VSS

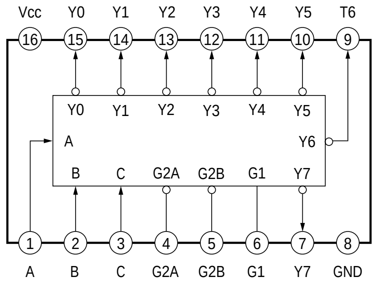
## TC3W03FU (IC20, 29)


VCC
B
A
Q
SELECT
f0/8
f0/4
f0/2
f0
CE
XT
XT
GND

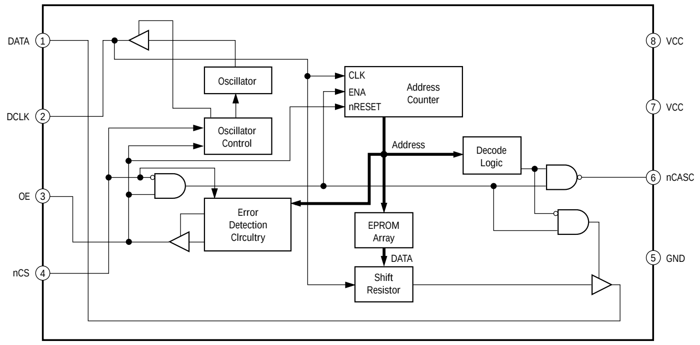
## X25040S-C7000 (IC7)


STATUS REGISTER
WRITE PROTECT LOGIC
COMMNAD DECODE AND CONTROL LOGIC
WRITE CONTROL AND TIMING LOGIC
X DECODE LOGIC
512 BYTE ARRAY
32X32
64X32
Y DECODE
DATA REGISTER
CS
SO
WP
GND
VDD
HOLD
SCK
SI

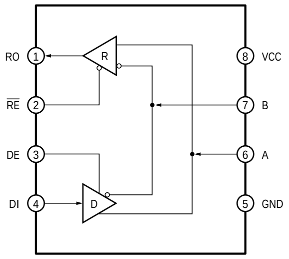
## TC74VHC138FT (IC10, 13)


Vcc
Y0
Y1
Y2
Y3
Y4
Y5
T6
A
B
C
G2A
G2B
G1
Y7
GND

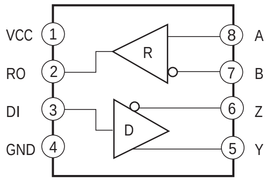
## EPC1PC8 (IC890)


DATA
DCLK
OE
nCS
VCC
nCASC
GND
Oscillator
Oscillator Control
CLK
ENA
nRESET
Address Counter
Address
Decode Logic
Error Detection Circuitry
EPROM Array
DATA
Shift Resistor

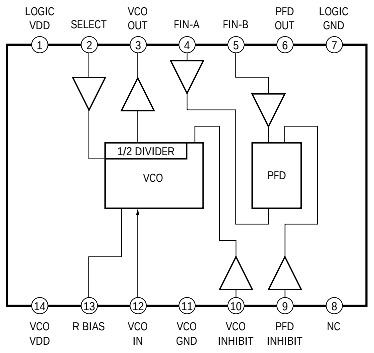
## MAX487ECSA-TE2 (IC25, 26)


RO
RE
DE
DI
VCC
B
A
GND
R
D

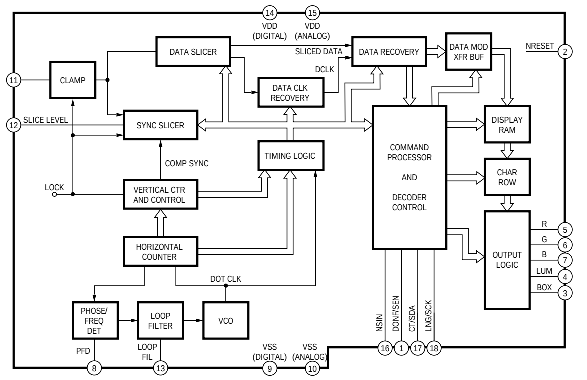
## MAX490ECSA (IC14)


VCC
RO
DI
GND
A
B
Z
Y
R
D

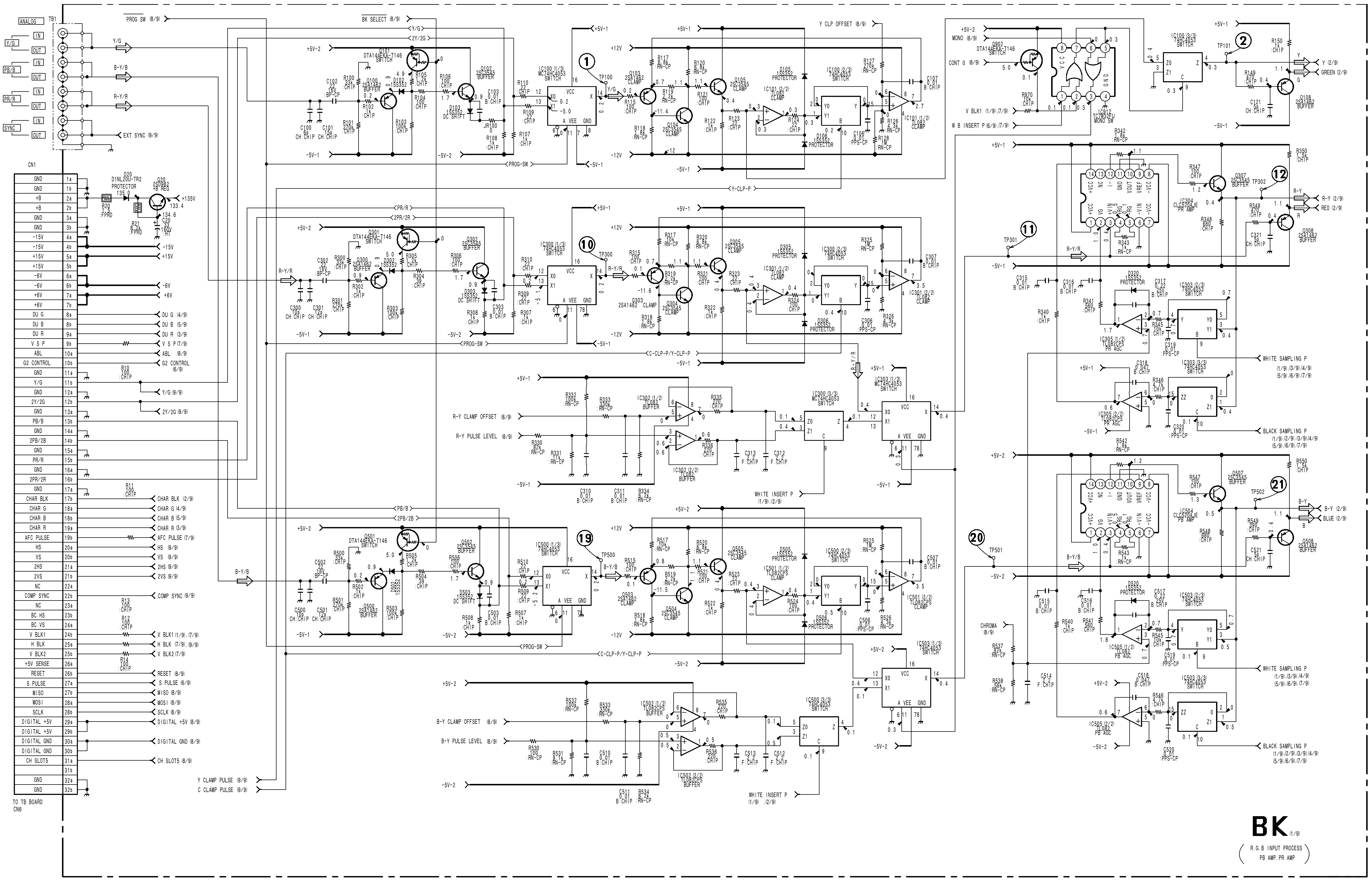
## TLC2932IPW (IC800)


LOGIC VDD
SELECT
VCO OUT
FIN-A
FIN-B
PFD OUT
LOGIC GND
1/2 DIVIDER
VCO
PFD
VCO VDD
R BIAS
VCO IN
VCO GND
VCO INHIBIT
PFD INHIBIT
NC

## Z8622812PSC (IC124)


VDD (DIGITAL)
VDD (ANALOG)
CLAMP
DATA SLICER
SLICED DATA
DATA RECOVERY
DATA MOD XFR BUF
NRESET
DCLK
DATA CLK RECOVERY
SLICE LEVEL
SYNC SLICER
TIMING LOGIC
COMMAND PROCESSOR AND DECODER CONTROL
DISPLAY RAM
CHAR ROW
COMP SYNC
LOCK
VERTICAL CTR AND CONTROL
HORIZONTAL COUNTER
OUTPUT LOGIC
R
G
B
LUM
BOX
DOT CLK
PHASE/ FREQ DET
LOOP FILTER
VCO
PFD
LOOP FIL
VSS (DIGITAL)
VSS (ANALOG)

BK (1/9)

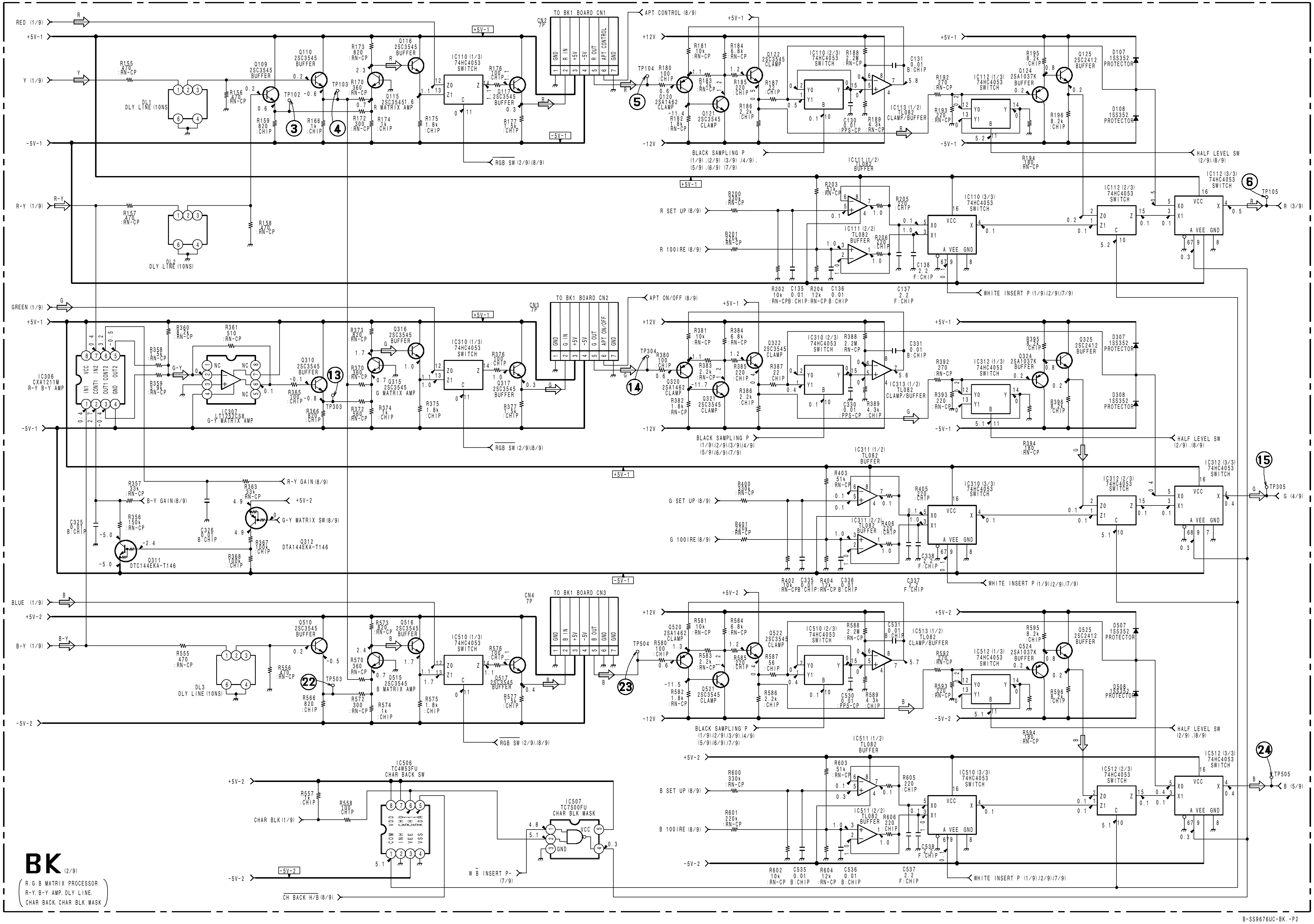

ANALOG
TB1
Y/G
PB/B
PR/R
SYNC
IN
OUT
EXT SYNC (9/9)
PROG SW (8/9)
BK SELECT (8/9)
CN1
D20 D1NL20U-TR2 PROTECTOR
Q20 2SD982 +B REG
+135V
-15V
+15V
-6V
+6V
DU G (4/9)
DU B (5/9)
DU R (3/9)
V S P (7/9)
ABL (8/9)
G2 CONTROL (6/9)
Y/G (9/9)
2Y/2G (9/9)
CHAR BLK (2/9)
CHAR G (4/9)
CHAR B (5/9)
CHAR R (3/9)
AFC PULSE (7/9)
HS (9/9)
VS (9/9)
2HS (9/9)
2VS (9/9)
COMP SYNC (9/9)
V BLK1 (1/9),(7/9)
H BLK (7/9),(9/9)
V BLK2 (7/9)
RESET (8/9)
S.PULSE (6/9)
MISO (8/9)
MOSI (8/9)
SCLK (8/9)
DIGITAL +5V (8/9)
DIGITAL GND (8/9)
CH SLOT5 (8/9)
TO TB BOARD CN6
Y CLAMP PULSE (9/9)
C CLAMP PULSE (9/9)
Q101 DTA144EKA-T146 SWITCH
Q102 2SC3545 BUFFER
Q103 2SA1462 CLAMP
Q104 2SC3545 CLAMP
Q105 2SC3545 CLAMP
IC100 (1/3) MC74HC4053 SWITCH
IC101 (1/2) TL082 CLAMP
Y CLP OFFSET (8/9)
CONT 0 (8/9)
MONO (8/9)
Q902 DTA144EKA-T146 SWITCH
IC312 TC7W32FU MONO SW
V BLK1 (1/9),(7/9)
W B INSERT P (6/9),(7/9)
IC100 (3/3) 74HC4053 SWITCH
Q108 2SA1462 BUFFER
Y (2/9)
GREEN (2/9)
R-Y (2/9)
RED (2/9)
IC304 CLC520AJE PR AMP
Q307 2SC3545 BUFFER
Q308 2SA1462 BUFFER
R-Y CLAMP OFFSET (8/9)
R-Y PULSE LEVEL (8/9)
IC302 TL082CPS BUFFER
IC300 (3/3) MC74HC4053 SWITCH
IC303 MC74HC4053 SWITCH
IC305 TL082CPS PR AGC
WHITE SAMPLING P (1/9),(3/9),(4/9) (5/9),(6/9),(7/9)
BLACK SAMPLING P (1/9),(2/9),(3/9),(4/9) (5/9),(6/9),(7/9)
WHITE INSERT P (1/9),(2/9)
IC504 CLC520AJE PB AMP
Q507 2SC3545 BUFFER
Q508 2SA1462 BUFFER
B-Y (2/9)
BLUE (2/9)
B-Y CLAMP OFFSET (8/9)
B-Y PULSE LEVEL (8/9)
IC502 TL082CPS BUFFER
IC500 74HC4053 SWITCH
IC503 74HC4053 SWITCH
IC505 TL082 PB AGC
CHROMA (8/9)
PROG-SW
C-CLP-P/Y-CLP-P
Y-CLP-P
TP100
TP101
TP300
TP301
TP302
TP500
TP501
TP502
①
②
⑩
⑪
⑫
⑲
⑳
㉑
BK (1/9)
R.G.B INPUT PROCESS
PB AMP, PR AMP

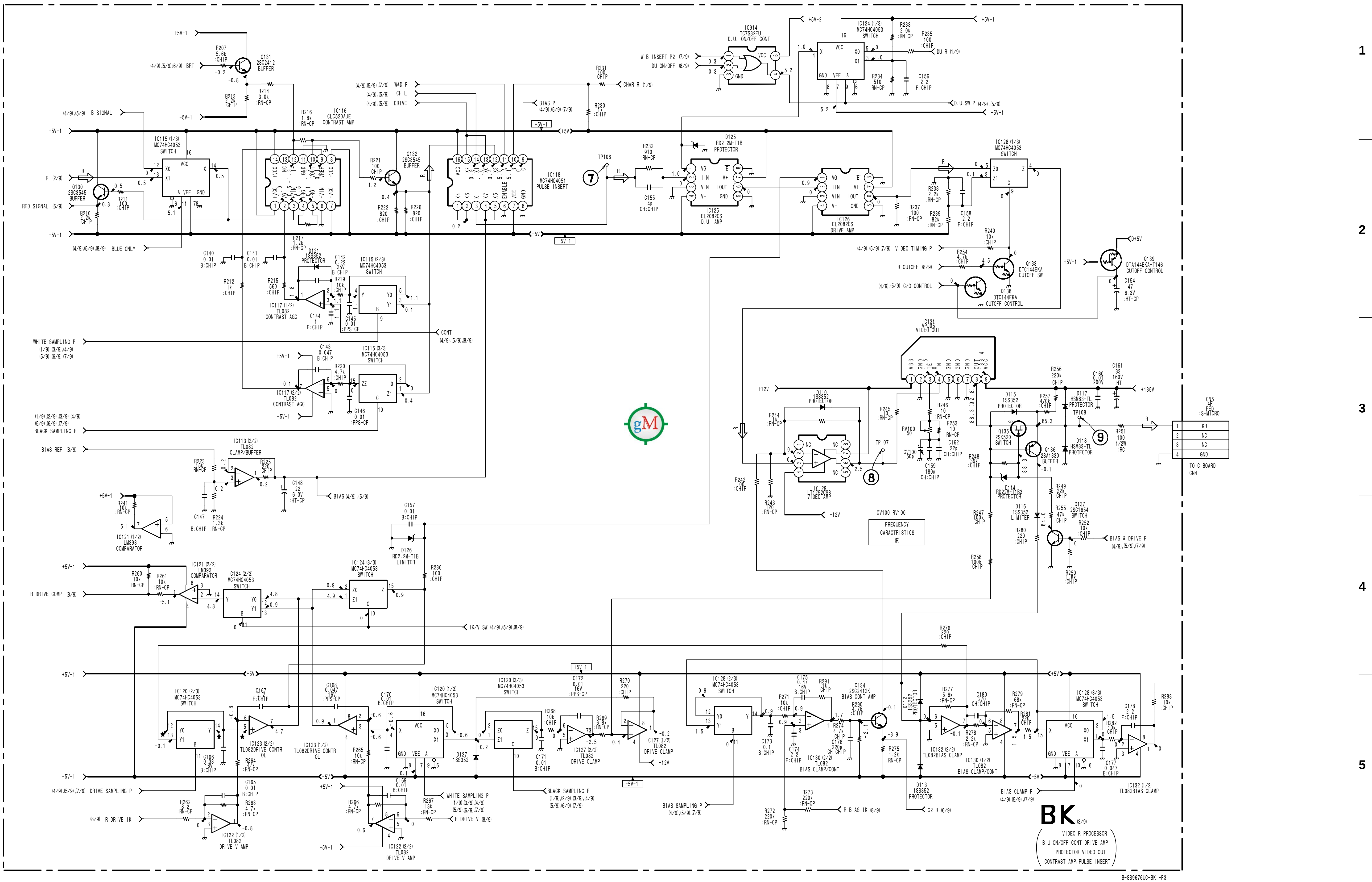
1
2
3
4
5

B-SS9676UC-BK.-P1

11-15

| A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|


RED (1/9)
+5V-1
Y (1/9)
-5V-1
R-Y (1/9)
GREEN (1/9)
BLUE (1/9)
+5V-2
B-Y (1/9)
-5V-2
DL1 DLY LINE (10NS)
DL2 DLY LINE (10NS)
DL3 DLY LINE (10NS)
Q109 2SC3545 BUFFER
Q110 2SC3545 BUFFER
Q116 2SC3545 BUFFER
Q115 2SC3545 R MATRIX AMP
Q117 2SC3545 BUFFER
IC110 (1/3) 74HC4053 SWITCH
TO BK1 BOARD CN1
CN2 7P
APT CONTROL (8/9)
RGB SW (2/9)(8/9)
TP102
TP103
TP104
Q120 2SA1462 CLAMP
Q121 2SC3545 CLAMP
Q122 2SC3545 CLAMP
IC110 (2/3) 74HC4053 SWITCH
IC113 (1/2) TL082 CLAMP/BUFFER
IC112 (1/3) 74HC4053 SWITCH
Q124 2SA1037K BUFFER
Q125 2SC2412 BUFFER
D107 1SS352 PROTECTOR
D108 1SS352 PROTECTOR
BLACK SAMPLING P (1/9),(2/9),(3/9),(4/9),(5/9),(6/9),(7/9)
HALF LEVEL SW (2/9),(8/9)
IC111 (1/2) TL082 BUFFER
IC111 (2/2) TL082 BUFFER
IC110 (3/3) 74HC4053 SWITCH
IC112 (2/3) 74HC4053 SWITCH
IC112 (3/3) 74HC4053 SWITCH
TP105
R (3/9)
R SET UP (8/9)
R 100IRE (8/9)
WHITE INSERT P (1/9),(2/9),(7/9)
IC306 CXA1211M R-Y B-Y AMP
IC307 LT1252CS8 G-Y MATRIX AMP
Q310 2SC3545 BUFFER
Q316 2SC3545 BUFFER
Q315 2SC3545 G MATRIX AMP
Q317 2SC3545 BUFFER
IC310 (1/3) 74HC4053 SWITCH
TO BK1 BOARD CN2
CN3 7P
APT ON/OFF (8/9)
TP303
TP304
Q320 2SA1462 CLAMP
Q321 2SC3545 CLAMP
Q322 2SC3545 CLAMP
IC310 (2/3) 74HC4053 SWITCH
IC313 (1/2) TL082 CLAMP/BUFFER
IC312 (1/3) 74HC4053 SWITCH
Q324 2SA1037K BUFFER
Q325 2SC2412 BUFFER
D307 1SS352 PROTECTOR
D308 1SS352 PROTECTOR
R-Y GAIN (8/9)
B-Y GAIN (8/9)
G-Y MATRIX SW (8/9)
Q311 DTC144EKA-T146
Q312 DTA144EKA-T146
IC311 (1/2) TL082 BUFFER
IC311 (2/2) TL082 BUFFER
IC310 (3/3) 74HC4053 SWITCH
IC312 (2/3) 74HC4053 SWITCH
IC312 (3/3) 74HC4053 SWITCH
TP305
G (4/9)
G SET UP (8/9)
G 100IRE (8/9)
Q510 2SC3545 BUFFER
Q516 2SC3545 BUFFER
Q515 2SC3545 B MATRIX AMP
Q517 2SC3545 BUFFER
IC510 (1/3) 74HC4053 SWITCH
TO BK1 BOARD CN3
CN4 7P
TP503
TP504
Q520 2SA1462 CLAMP
Q521 2SC3545 CLAMP
Q522 2SC3545 CLAMP
IC510 (2/3) 74HC4053 SWITCH
IC513 (1/2) TL082 CLAMP/BUFFER
IC512 (1/3) 74HC4053 SWITCH
Q524 2SA1037K BUFFER
Q525 2SC2412 BUFFER
D507 1SS352 PROTECTOR
D508 1SS352 PROTECTOR
IC511 (1/2) TL082 BUFFER
IC511 (2/2) TL082 BUFFER
IC510 (3/3) 74HC4053 SWITCH
IC512 (2/3) 74HC4053 SWITCH
IC512 (3/3) 74HC4053 SWITCH
TP505
B (5/9)
B SET UP (8/9)
B 100IRE (8/9)
IC506 TC4W53FU CHAR BACK SW
IC507 TC7S00FU CHAR BLK MASK
CHAR BLK (1/9)
W B INSERT P- (7/9)
CH BACK H/B (8/9)
BK (2/9)
R.G.B MATRIX PROCESSOR
R-Y,B-Y AMP,DLY LINE,
CHAR BACK,CHAR BLK MASK
B-SS9676UC-BK.-P2
1
2
3
4
5
A
B
C
D
E
F
G
H


1
2
3
4
5
IC115 (1/3) MC74HC4053 SWITCH
IC116 CLC520AJE CONTRAST AMP
Q131 2SC2412 BUFFER
Q130 2SC3545 BUFFER
Q132 2SC3545 BUFFER
IC118 MC74HC4051 PULSE INSERT
IC914 TC7S32FU D.U. ON/OFF CONT
IC124 (1/3) MC74HC4053 SWITCH
D125 RD2.2M-T1B PROTECTOR
IC125 EL2082CS D.U. AMP
IC126 EL2082CS DRIVE AMP
IC128 (1/3) MC74HC4053 SWITCH
Q133 DTC144EKA CUTOFF SW
Q138 DTC144EKA CUTOFF CONTROL
Q139 DTA144EKA-T146 CUTOFF CONTROL
IC117 (1/2) TL082 CONTRAST AGC
IC115 (2/3) MC74HC4053 SWITCH
IC117 (2/2) TL082 CONTRAST AGC
IC115 (3/3) MC74HC4053 SWITCH
IC131 VPJ6A VIDEO OUT
IC129 LT1252CS8 VIDEO AMP
Q135 2SK520 SWITCH
Q136 2SA1330 BUFFER
Q137 2SC1654 SWITCH
CN5 4P RED :S-MICRO
KR
NC
NC
GND
TO C BOARD CN4
CV100, RV100 FREQUENCY CARACTRISTICS (R)
IC113 (2/2) TL082 CLAMP/BUFFER
IC121 (1/2) LM393 COMPARATOR
IC121 (2/2) LM393 COMPARATOR
IC124 (2/3) MC74HC4053 SWITCH
IC124 (3/3) MC74HC4053 SWITCH
D126 RD2.2M-T1B LIMITER
IC120 (2/3) MC74HC4053 SWITCH
IC123 (2/2) TL082DRIVE CONTROL
IC123 (1/2) TL082DRIVE CONTROL
IC120 (1/3) MC74HC4053 SWITCH
IC120 (3/3) MC74HC4053 SWITCH
IC127 (2/2) TL082 DRIVE CLAMP
IC127 (1/2) TL082 DRIVE CLAMP
IC128 (2/3) MC74HC4053 SWITCH
IC130 (2/2) TL082 BIAS CLAMP/CONT
Q134 2SC2412K BIAS CONT AMP
IC132 (2/2) TL082BIAS CLAMP
IC130 (1/2) TL082 BIAS CLAMP/CONT
IC128 (3/3) MC74HC4053 SWITCH
IC132 (1/2) TL082BIAS CLAMP
IC122 (1/2) TL082 DRIVE V AMP
IC122 (2/2) TL082 DRIVE V AMP
R (2/9)
RED SIGNAL (6/9)
B SIGNAL
BLUE ONLY
WHITE SAMPLING P
BLACK SAMPLING P
BIAS REF (8/9)
R DRIVE COMP (8/9)
DRIVE SAMPLING P
R DRIVE IK
BIAS (4/9),(5/9)
IK/V SW (4/9),(5/9),(8/9)
CONT (4/9),(5/9),(8/9)
W B INSERT P2 (7/9)
DU ON/OFF (8/9)
CHAR R (1/9)
DU R (1/9)
D.U.SW.P (4/9),(5/9)
VIDEO TIMING P
R CUTOFF (8/9)
C/O CONTROL
BIAS & DRIVE P
WHITE SAMPLING P
R DRIVE V (8/9)
BLACK SAMPLING P
BIAS SAMPLING P
R BIAS IK (8/9)
G2 R (6/9)
BIAS CLAMP P
+5V-1
-5V-1
+12V
-12V
+135V
D+5V
TP106
TP107
TP108
BK (3/9)
VIDEO R PROCESSOR
B.U ON/OFF CONT DRIVE AMP
PROTECTOR VIDEO OUT
CONTRAST AMP, PULSE INSERT
B-SS9676UC-BK.-P3

A B C D E F G H

1

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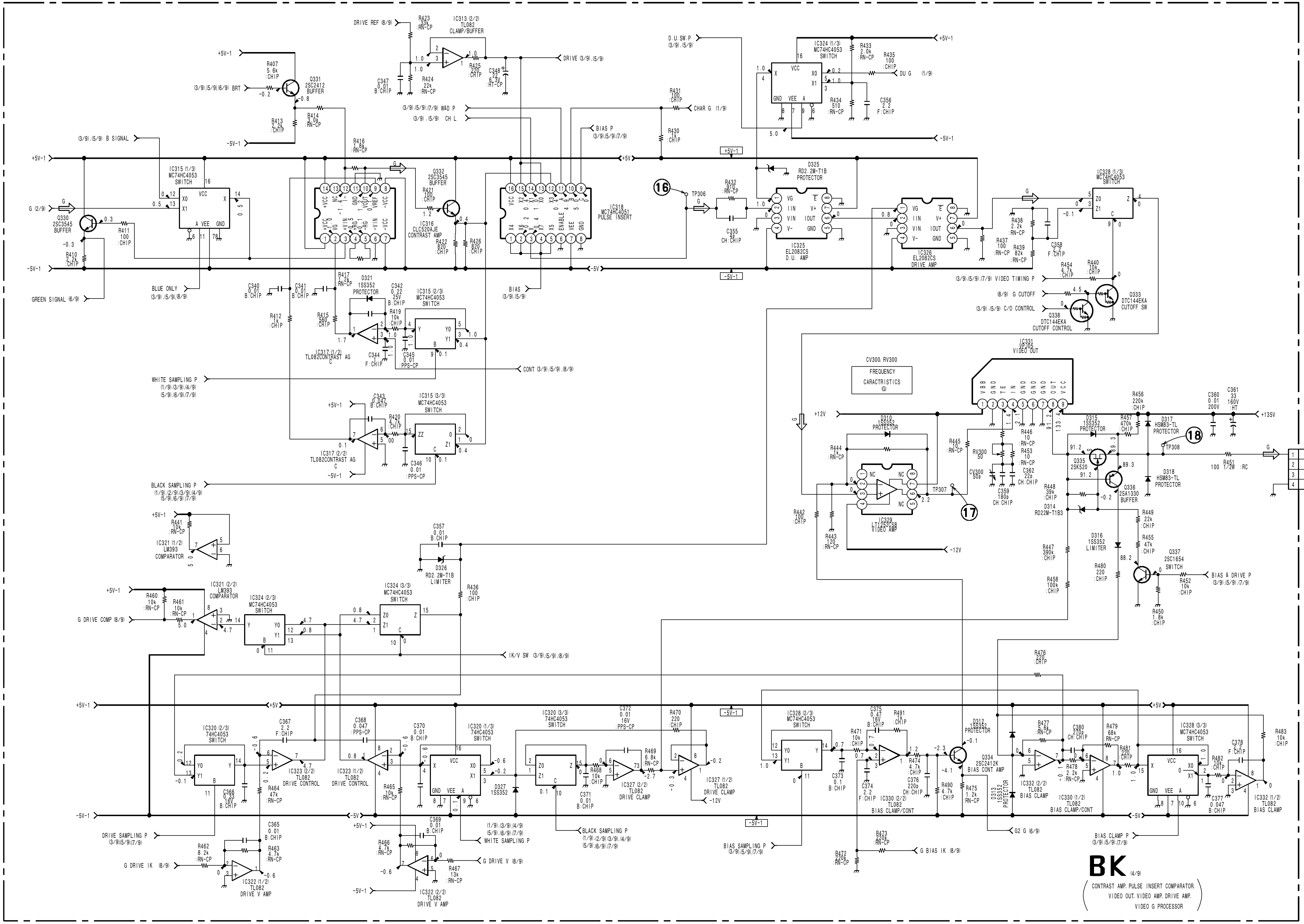
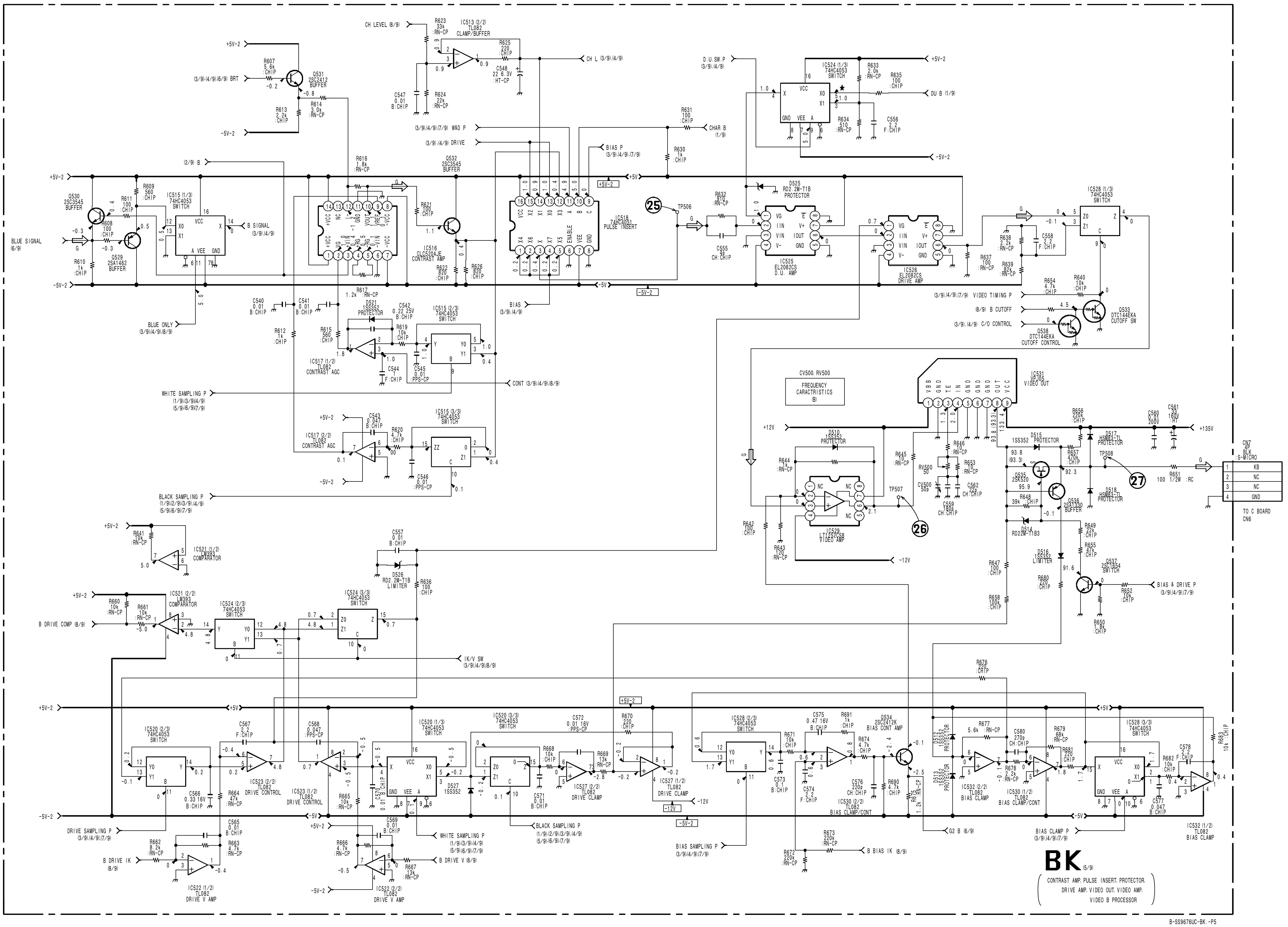

IC313 (2/2) TL082 CLAMP/BUFFER
DRIVE REF (8/9)
DRIVE (3/9),(5/9)
Q331 2SC2412 BUFFER
(3/9),(5/9),(6/9) BRT
(3/9),(5/9) B SIGNAL
+5V-1
-5V-1
G (2/9)
Q330 2SC3545 BUFFER
IC315 (1/3) MC74HC4053 SWITCH
BLUE ONLY (3/9),(5/9),(8/9)
GREEN SIGNAL (6/9)
IC316 CLC520AJE CONTRAST AMP
Q332 2SC3545 BUFFER
(3/9),(5/9),(7/9) W&D P
(3/9),(5/9) CH L
IC318 MC74HC4051 PULSE INSERT
BIAS P (3/9),(5/9),(7/9)
BIAS (3/9),(5/9)
D.U.SW.P (3/9),(5/9)
IC324 (1/3) MC74HC4053 SWITCH
DU G (1/9)
CHAR G (1/9)
TP306
D325 RD2.2M-T1B PROTECTOR
IC325 EL2082CS D.U. AMP
IC326 EL2082CS DRIVE AMP
IC328 (1/3) MC74HC4053 SWITCH
(3/9),(5/9),(7/9) VIDEO TIMING P
(8/9) G CUTOFF
(3/9),(5/9) C/O CONTROL
Q333 DTC144EKA CUTOFF SW
Q338 DTC144EKA CUTOFF CONTROL
IC317 (1/2) TL082 CONTRAST AG C
D321 1SS352 PROTECTOR
IC315 (2/3) MC74HC4053 SWITCH
CONT (3/9),(5/9),(8/9)
WHITE SAMPLING P (1/9),(3/9),(4/9),(5/9),(6/9),(7/9)
IC315 (3/3) MC74HC4053 SWITCH
IC317 (2/2) TL082 CONTRAST AG C
BLACK SAMPLING P (1/9),(2/9),(3/9),(4/9),(5/9),(6/9),(7/9)
IC321 (1/2) LM393 COMPARATOR
IC321 (2/2) LM393 COMPARATOR
G DRIVE COMP (8/9)
IC324 (2/3) MC74HC4053 SWITCH
IC324 (3/3) MC74HC4053 SWITCH
D326 RD2.2M-T1B LIMITER
IK/V SW (3/9),(5/9),(8/9)
CV300, RV300
FREQUENCY CARACTRISTICS (G)
IC331 LA7905 VIDEO OUT
+12V
-12V
+135V
D310 1SS352 PROTECTOR
IC329 LT1252CS8 VIDEO AMP
TP307
Q335 2SK520
Q336 2SA1330 BUFFER
D314 RD22M-T1B3
D315 1SS352 PROTECTOR
D316 1SS352 LIMITER
D317 HSM83-TL PROTECTOR
D318 HSM83-TL PROTECTOR
TP308
Q337 2SC1654 SWITCH
BIAS & DRIVE P (3/9),(5/9),(7/9)
CN6 4P WHT S-MICRO
KG
NC
NC
GND
TO C BOARD CN5
IC320 (2/3) 74HC4053 SWITCH
IC323 (2/2) TL082 DRIVE CONTROL
IC323 (1/2) TL082 DRIVE CONTROL
IC320 (1/3) 74HC4053 SWITCH
D327 1SS352
IC320 (3/3) 74HC4053 SWITCH
IC327 (2/2) TL082 DRIVE CLAMP
IC327 (1/2) TL082 DRIVE CLAMP
DRIVE SAMPLING P (3/9),(5/9),(7/9)
G DRIVE IK (8/9)
IC322 (1/2) TL082 DRIVE V AMP
IC322 (2/2) TL082 DRIVE V AMP
G DRIVE V (8/9)
BLACK SAMPLING P (1/9),(2/9),(3/9),(4/9),(5/9),(6/9),(7/9)
IC328 (2/3) MC74HC4053 SWITCH
IC330 (2/2) TL082 BIAS CLAMP/CONT
BIAS SAMPLING P (3/9),(5/9),(7/9)
G BIAS IK (8/9)
D312 1SS352 PROTECTOR
Q334 2SC2412K BIAS CONT AMP
D313 1SS352 PROTECTOR
G2 G (6/9)
IC332 (2/2) TL082 BIAS CLAMP
IC330 (1/2) TL082 BIAS CLAMP/CONT
IC328 (3/3) MC74HC4053 SWITCH
IC332 (1/2) TL082 BIAS CLAMP
BIAS CLAMP P (3/9),(5/9),(7/9)
BK (4/9)
CONTRAST AMP, PULSE INSERT COMPARATOR, VIDEO OUT, VIDEO AMP, DRIVE AMP, VIDEO G PROCESSOR
B-SS9676UC-BK.-P4

A B C D E F G H


CH LEVEL (8/9)
IC513 (2/2) TL082 CLAMP/BUFFER
CH L (3/9)(4/9)
(3/9)(4/9)(6/9) BRT
Q531 2SC2412 BUFFER
BLUE SIGNAL (6/9)
Q530 2SC3545 BUFFER
Q529 2SA1462 BUFFER
IC515 (1/3) 74HC4053 SWITCH
B SIGNAL (3/9)(4/9)
BLUE ONLY (3/9)(4/9)(8/9)
Q532 2SC3545 BUFFER
IC516 CLC520AJE CONTRAST AMP
IC518 74HC4051 PULSE INSERT
D.U.SW.P (3/9)(4/9)
IC524 (1/3) 74HC4053 SWITCH
DU B (1/9)
CHAR B (1/9)
BIAS P (3/9)(4/9)(7/9)
W&D P
DRIVE
BIAS (3/9)(4/9)
TP506
D525 RD2.2M-T1B PROTECTOR
IC525 EL2082CS D.U. AMP
IC526 EL2082CS DRIVE AMP
IC528 (1/3) 74HC4053 SWITCH
VIDEO TIMING P
(8/9) B CUTOFF
(3/9)(4/9) C/O CONTROL
Q533 DTC144EKA CUTOFF SW
Q538 DTC144EKA CUTOFF CONTROL
D521 1SS352 PROTECTOR
IC515 (2/3) 74HC4053 SWITCH
IC517 (1/2) TL082 CONTRAST AGC
CONT (3/9)(4/9)(8/9)
WHITE SAMPLING P (1/9)(3/9)(4/9) (5/9)(6/9)(7/9)
IC517 (2/2) TL082 CONTRAST AGC
IC515 (3/3) 74HC4053 SWITCH
BLACK SAMPLING P (1/9)(2/9)(3/9)(4/9) (5/9)(6/9)(7/9)
CV500, RV500
FREQUENCY CARACTRISTICS (B)
IC531 μPC1488 VIDEO OUT
+12V
+135V
D510 1SS352 PROTECTOR
D515 1SS352 PROTECTOR
D517 HSM83-TL PROTECTOR
TP508
Q535 2SK520
Q536 2SC3990 BUFFER
D518 HSM83-TL PROTECTOR
CN7 4P BLK S-MICRO
KB
NC
NC
GND
TO C BOARD CN6
IC529 LT1252CS8 VIDEO AMP
TP507
D514 RD22M-T1B3
D516 1SS352 LIMITER
Q537 2SC1654 SWITCH
BIAS & DRIVE P (3/9)(4/9)(7/9)
-12V
IC521 (1/2) CM393 COMPARATOR
IC521 (2/2) LM393 COMPARATOR
B DRIVE COMP (8/9)
IC524 (2/3) 74HC4053 SWITCH
IC524 (3/3) 74HC4053 SWITCH
D526 RD2.2M-T1B LIMITER
IK/V SW (3/9)(4/9)(8/9)
IC520 (2/3) 74HC4053 SWITCH
IC523 (2/2) TL082 DRIVE CONTROL
IC523 (1/2) TL082 DRIVE CONTROL
IC520 (1/3) 74HC4053 SWITCH
D527 1SS352
IC520 (3/3) 74HC4053 SWITCH
IC527 (2/2) TL082 DRIVE CLAMP
IC527 (1/2) TL082 DRIVE CLAMP
IC528 (2/3) 74HC4053 SWITCH
Q534 2SC2412K BIAS CONT AMP
IC530 (2/2) TL082 BIAS CLAMP/CONT
D512 1SS352 PROTECTOR
D513 1SS352 PROTECTOR
IC532 (2/2) TL082 BIAS CLAMP
IC530 (1/2) TL082 BIAS CLAMP/CONT
IC528 (3/3) 74HC4053 SWITCH
IC532 (1/2) TL082 BIAS CLAMP
DRIVE SAMPLING P (3/9)(4/9)(7/9)
B DRIVE IK (8/9)
IC522 (1/2) TL082 DRIVE V AMP
IC522 (2/2) TL082 DRIVE V AMP
B DRIVE V (8/9)
BLACK SAMPLING P (1/9)(2/9)(3/9)(4/9) (5/9)(6/9)(7/9)
BIAS SAMPLING P (3/9)(4/9)(7/9)
G2 B (6/9)
B BIAS IK (8/9)
BIAS CLAMP P (3/9)(4/9)(7/9)
25
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27
B-SS9676UC-BK.-P5
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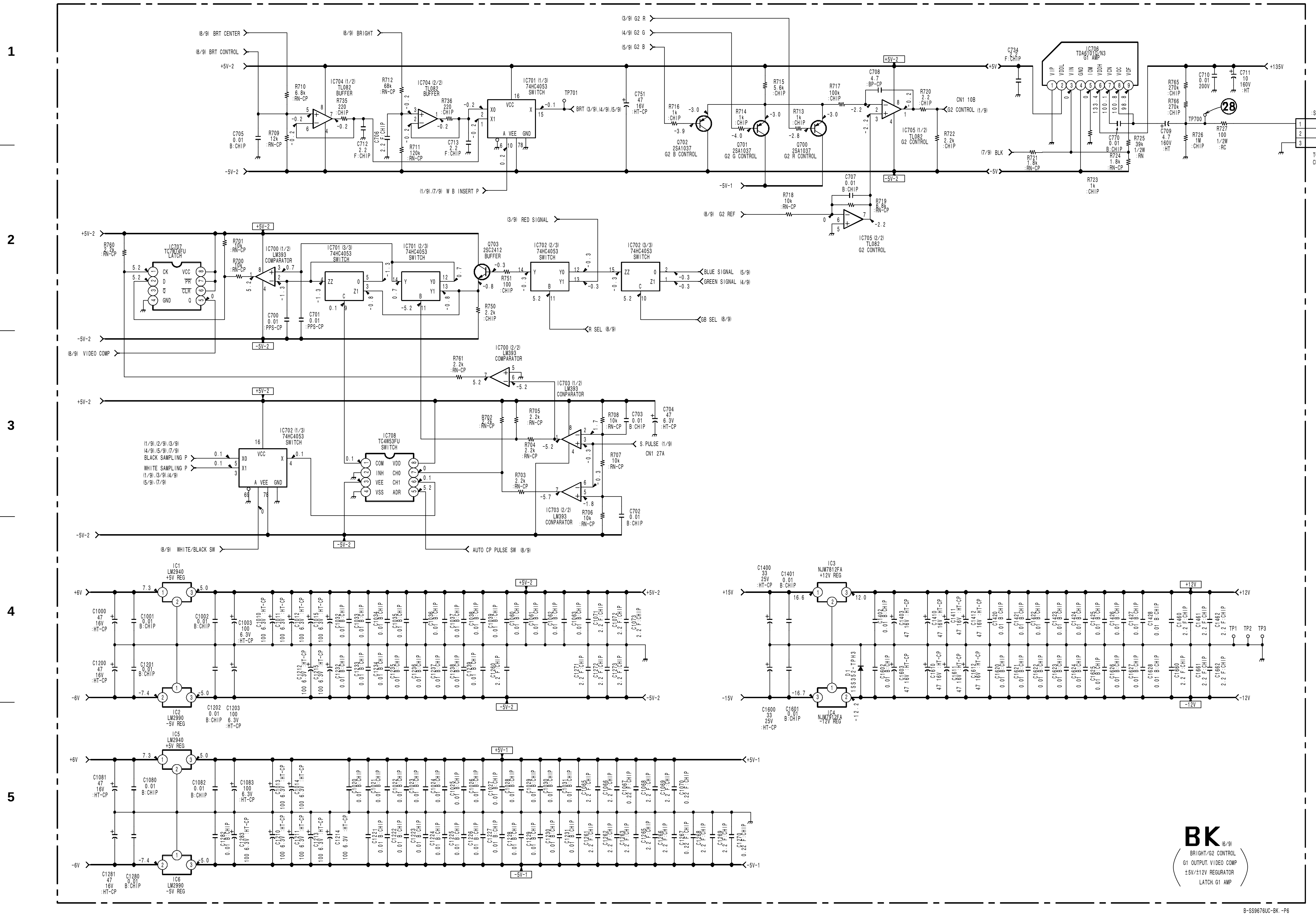
**BK** (5/9)

CONTRAST AMP, PULSE INSERT, PROTECTOR,
DRIVE AMP, VIDEO OUT, VIDEO AMP,
VIDEO B PROCESSOR


1
2
3
4
5
(8/9) BRT CENTER
(8/9) BRT CONTROL
(8/9) BRIGHT
(3/9) G2 R
(4/9) G2 G
(5/9) G2 B
+5V-2
-5V-2
IC704 (1/2) TL082 BUFFER
IC704 (2/2) TL082 BUFFER
IC701 (1/3) 74HC4053 SWITCH
TP701
BRT (3/9),(4/9),(5/9)
(1/9),(7/9) W B INSERT P
Q702 2SA1037 G2 B CONTROL
Q701 2SA1037 G2 G CONTROL
Q700 2SA1037 G2 R CONTROL
IC705 (1/2) TL082 G2 CONTROL
IC705 (2/2) TL082 G2 CONTROL
CN1 10B
G2 CONTROL (1/9)
(8/9) G2 REF
(7/9) BLK
IC706 TDA6101Q/N3 G1 AMP
+135V
TP700
28
CN8 3P WHT S-MICRO
G1
GND
TO C BOARD CN7
IC707 TC7W74FU LATCH
IC700 (1/2) LM393 COMPARATOR
IC701 (3/3) 74HC4053 SWITCH
IC701 (2/3) 74HC4053 SWITCH
Q703 2SC2412 BUFFER
(3/9) RED SIGNAL
IC702 (2/3) 74HC4053 SWITCH
IC702 (3/3) 74HC4053 SWITCH
BLUE SIGNAL (5/9)
GREEN SIGNAL (4/9)
R SEL (8/9)
GB SEL (8/9)
(8/9) VIDEO COMP
IC700 (2/2) LM393 COMPARATOR
IC703 (1/2) LM393 COMPARATOR
IC703 (2/2) LM393 COMPARATOR
IC702 (1/3) 74HC4053 SWITCH
IC708 TC4W53FU SWITCH
(1/9),(2/9),(3/9) (4/9),(5/9),(7/9) BLACK SAMPLING P
WHITE SAMPLING P (1/9),(3/9),(4/9) (5/9),(7/9)
S.PULSE (1/9)
CN1 27A
(8/9) WHITE/BLACK SW
AUTO CP PULSE SW (8/9)
IC1 LM2940 +5V REG
IC2 LM2990 -5V REG
IC3 NJM7812FA +12V REG
IC4 NJM7912FA -12V REG
IC5 LM2940 +5V REG
IC6 LM2990 -5V REG
+6V
-6V
+15V
-15V
+12V
-12V
+5V-1
-5V-1
TP1
TP2
TP3
D1 1SS352-TPH3
BK (6/9)
BRIGHT/G2 CONTROL
G1 OUTPUT, VIDEO COMP
±5V/±12V REGURATOR
LATCH G1 AMP
B-SS9676UC-BK -P6

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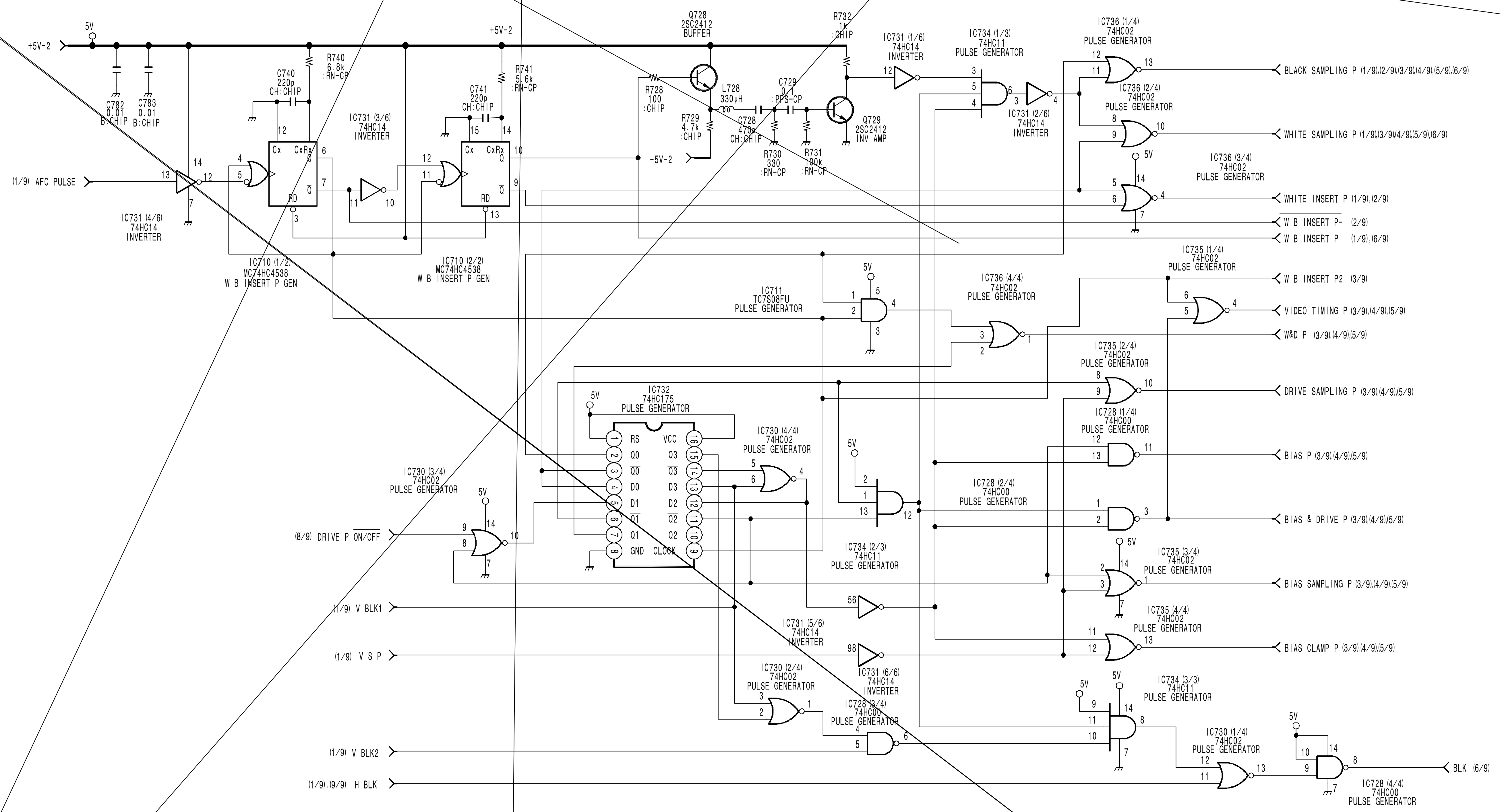
+5V-2
5V
C782
0.01
B:CHIP
C783
0.01
B:CHIP
(1/9) AFC PULSE
IC731 (4/6)
74HC14
INVERTER
C740
220p
CH:CHIP
R740
6.8k
:RN-CP
IC710 (1/2)
MC74HC4538
W B INSERT P GEN
Cx
CxRx
Q
RD
IC731 (3/6)
74HC14
INVERTER
+5V-2
C741
220p
CH:CHIP
R741
5.6k
:RN-CP
IC710 (2/2)
MC74HC4538
W B INSERT P GEN
Q728
2SC2412
BUFFER
R728
100
:CHIP
R729
4.7k
:CHIP
L728
330μH
C728
470p
CH:CHIP
C729
0.1
:PPS-CP
-5V-2
R730
330
:RN-CP
R731
100k
:RN-CP
R732
1k
:CHIP
Q729
2SC2412
INV AMP
IC731 (1/6)
74HC14
INVERTER
IC734 (1/3)
74HC11
PULSE GENERATOR
IC731 (2/6)
74HC14
INVERTER
IC736 (1/4)
74HC02
PULSE GENERATOR
IC736 (2/4)
74HC02
PULSE GENERATOR
IC736 (3/4)
74HC02
PULSE GENERATOR
BLACK SAMPLING P (1/9),(2/9),(3/9),(4/9),(5/9),(6/9)
WHITE SAMPLING P (1/9),(3/9),(4/9),(5/9),(6/9)
WHITE INSERT P (1/9),(2/9)
W B INSERT P- (2/9)
W B INSERT P (1/9),(6/9)
IC711
TC7S08FU
PULSE GENERATOR
IC736 (4/4)
74HC02
PULSE GENERATOR
IC735 (1/4)
74HC02
PULSE GENERATOR
W B INSERT P2 (3/9)
VIDEO TIMING P (3/9),(4/9),(5/9)
W&D P (3/9),(4/9),(5/9)
IC735 (2/4)
74HC02
PULSE GENERATOR
DRIVE SAMPLING P (3/9),(4/9),(5/9)
IC732
74HC175
PULSE GENERATOR
RS
Q0
Q0
D0
D1
Q1
Q1
GND
VCC
Q3
Q3
D3
D2
Q2
Q2
CLOCK
IC730 (4/4)
74HC02
PULSE GENERATOR
IC728 (1/4)
74HC00
PULSE GENERATOR
BIAS P (3/9),(4/9),(5/9)
IC728 (2/4)
74HC00
PULSE GENERATOR
BIAS & DRIVE P (3/9),(4/9),(5/9)
IC730 (3/4)
74HC02
PULSE GENERATOR
(8/9) DRIVE P ON/OFF
IC734 (2/3)
74HC11
PULSE GENERATOR
IC735 (3/4)
74HC02
PULSE GENERATOR
BIAS SAMPLING P (3/9),(4/9),(5/9)
(1/9) V BLK1
(1/9) V S P
IC731 (5/6)
74HC14
INVERTER
IC735 (4/4)
74HC02
PULSE GENERATOR
BIAS CLAMP P (3/9),(4/9),(5/9)
IC731 (6/6)
74HC14
INVERTER
IC730 (2/4)
74HC02
PULSE GENERATOR
IC728 (3/4)
74HC00
PULSE GENERATOR
IC734 (3/3)
74HC11
PULSE GENERATOR
IC730 (1/4)
74HC02
PULSE GENERATOR
(1/9) V BLK2
(1/9),(9/9) H BLK
IC728 (4/4)
74HC00
PULSE GENERATOR
BLK (6/9)
1
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**BK** (7/9)
PULSE GENERATOR
W B INSERT P GEN

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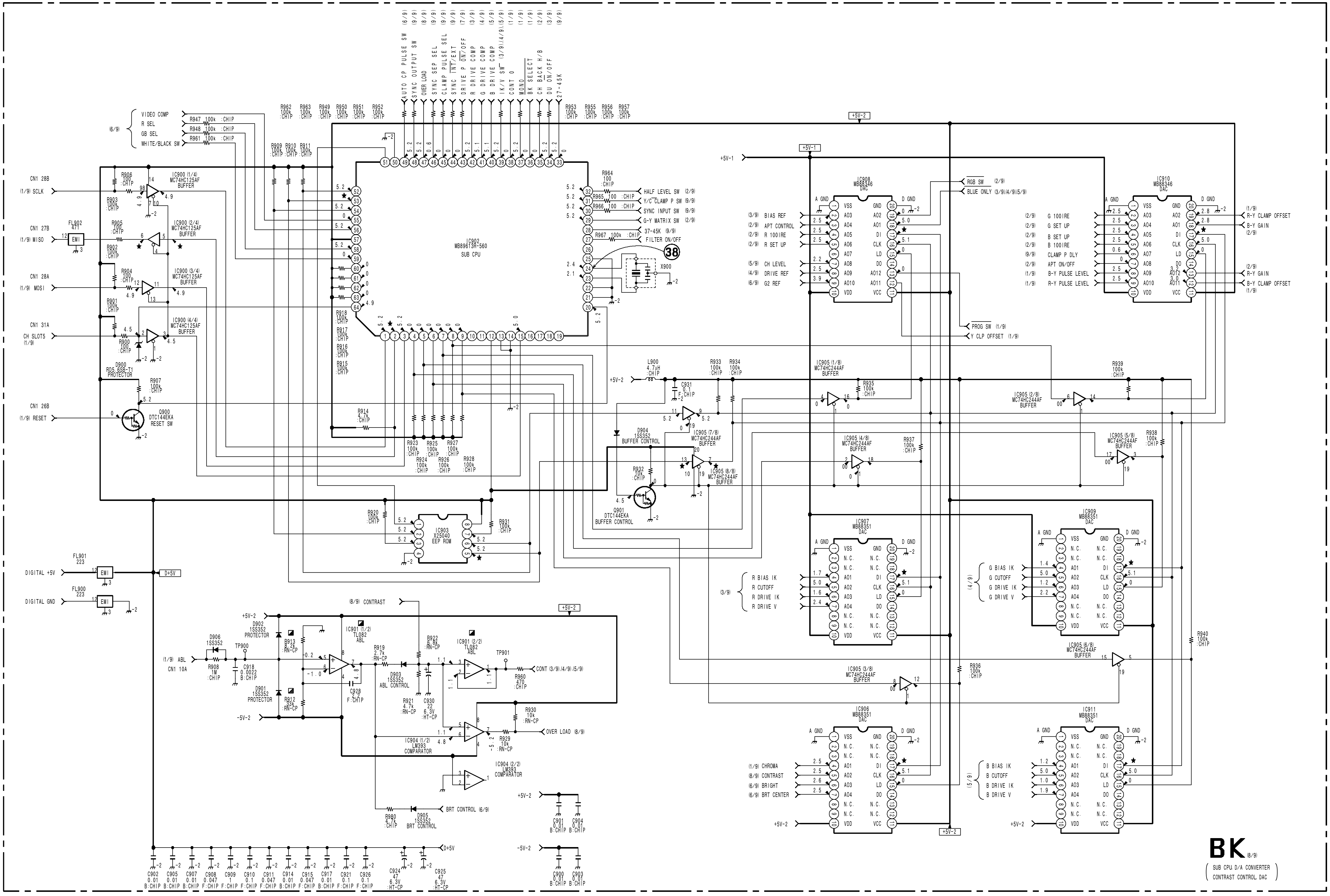
1
2
3
4
5
CN1 28B
(1/9) SCLK
CN1 27B
(1/9) MISO
CN1 28A
(1/9) MOSI
CN1 31A
CH SLOT5 (1/9)
CN1 26B
(1/9) RESET
(6/9)
VIDEO COMP
R SEL
GB SEL
WHITE/BLACK SW
IC900 (1/4) MC74HC125AF BUFFER
IC900 (2/4) MC74HC125AF BUFFER
IC900 (3/4) MC74HC125AF BUFFER
IC900 (4/4) MC74HC125AF BUFFER
FL902 471
D900 RD5.6SB-T1 PROTECTOR
Q900 DTC144EKA RESET SW
AUTO CP PULSE SW (6/9)
SYNC OUTPUT SW (9/9)
OVER LOAD (8/9)
SYNC SEP SEL (9/9)
CLAMP PULSE SEL (9/9)
SYNC INT/EXT (9/9)
DRIVE P ON/OFF (7/9)
R DRIVE COMP (3/9)
G DRIVE COMP (4/9)
B DRIVE COMP (5/9)
IK/V SW (3/9)(4/9)(5/9)
CONT 0 (1/9)
MONO (1/9)
BK SELECT (2/9)
CH BACK H/B (3/9)
DU ON/OFF (9/9)
27-45K (9/9)
IC902 MB89613SH-560 SUB CPU
HALF LEVEL SW (2/9)
Y/C CLAMP P SW (9/9)
SYNC INPUT SW (9/9)
G-Y MATRIX SW (2/9)
37-45K (9/9)
FILTER ON/OFF
X900
38
IC903 X25040 EEP ROM
+5V-1
+5V-2
IC908 MB88346 DAC
(3/9) BIAS REF
(2/9) APT CONTROL
(2/9) R 100IRE
(2/9) R SET UP
(5/9) CH LEVEL
(4/9) DRIVE REF
(6/9) G2 REF
RGB SW (2/9)
BLUE ONLY (3/9)(4/9)(5/9)
IC910 MB88346 DAC
(2/9) G 100IRE
(2/9) G SET UP
(2/9) B SET UP
(2/9) B 100IRE
(9/9) CLAMP P DLY
(2/9) APT ON/OFF
(1/9) B-Y PULSE LEVEL
(1/9) R-Y PULSE LEVEL
(1/9) R-Y CLAMP OFFSET
B-Y GAIN (2/9)
(2/9) R-Y GAIN
B-Y CLAMP OFFSET (1/9)
PROG SW (1/9)
Y CLP OFFSET (1/9)
L900 4.7μH
IC905 (1/8) MC74HC244AF BUFFER
IC905 (2/8) MC74HC244AF BUFFER
IC905 (3/8) MC74HC244AF BUFFER
IC905 (4/8) MC74HC244AF BUFFER
IC905 (5/8) MC74HC244AF BUFFER
IC905 (6/8) MC74HC244AF BUFFER
IC905 (7/8) MC74HC244AF BUFFER
IC905 (8/8) MC74HC244AF BUFFER
D904 1SS352 BUFFER CONTROL
Q901 DTC144EKA BUFFER CONTROL
IC907 MB88351 DAC
(3/9) R BIAS IK / R CUTOFF / R DRIVE IK / R DRIVE V
IC909 MB88351 DAC
(4/9) G BIAS IK / G CUTOFF / G DRIVE IK / G DRIVE V
IC906 MB88351 DAC
(1/9) CHROMA
(8/9) CONTRAST
(6/9) BRIGHT
(6/9) BRT CENTER
IC911 MB88351 DAC
(5/9) B BIAS IK / B CUTOFF / B DRIVE IK / B DRIVE V
DIGITAL +5V
DIGITAL GND
FL901 223
FL900 223
D+5V
(8/9) CONTRAST
D902 1SS352 PROTECTOR
D906 1SS352
TP900
(1/9) ABL CN1 10A
D901 1SS352 PROTECTOR
IC901 (1/2) TL082 ABL
IC901 (2/2) TL082 ABL
D903 1SS352 ABL CONTROL
TP901
CONT (3/9)(4/9)(5/9)
IC904 (1/2) LM393 COMPARATOR
IC904 (2/2) LM393 COMPARATOR
OVER LOAD (8/9)
D905 1SS352 BRT CONTROL
BRT CONTROL (6/9)
-5V-2
BK (8/9)
SUB CPU D/A CONVERTER
CONTRAST CONTROL DAC
B-SS9676UC-BK.-P8

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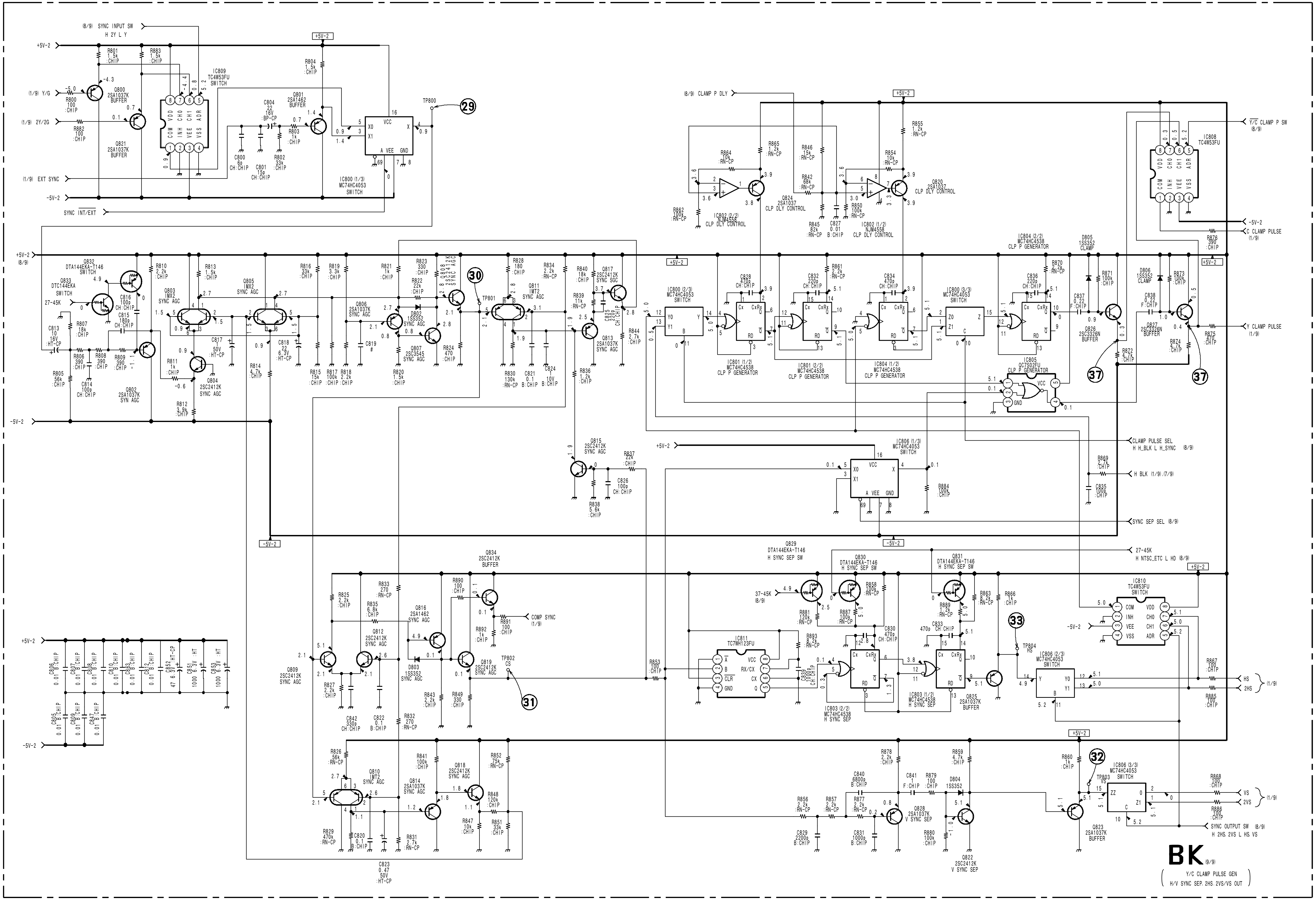
(8/9) SYNC INPUT SW
H 2Y L Y
+5V-2
(1/9) Y/G
(1/9) 2Y/2G
(1/9) EXT SYNC
-5V-2
SYNC INT/EXT
IC809
TC4W53FU
SWITCH
Q800
2SA1037K
BUFFER
Q821
2SA1037K
BUFFER
Q801
2SA1462
BUFFER
IC800 (1/3)
MC74HC4053
SWITCH
TP800
29
(8/9) CLAMP P DLY
IC802 (2/2)
NJM4558
CLP DLY CONTROL
Q824
2SA1037
CLP DLY CONTROL
IC802 (1/2)
NJM4558
CLP DLY CONTROL
Q820
2SA1037
CLP DLY CONTROL
Y/C CLAMP P SW (8/9)
IC808
TC4W53FU
C CLAMP PULSE (1/9)
Q832
DTA144EKA-T146
SWITCH
Q833
DTC144EKA
SWITCH
27-45K
Q803
IMX2
SYNC AGC
Q805
IMX2
SYNC AGC
Q802
2SA1037K
SYN AGC
Q804
2SC2412K
SYNC AGC
Q806
2SA1037K
SYNC AGC
D802
1SS352
SYNC AGC
Q807
2SC3545
SYNC AGC
Q808
2SC2412K
SYNC AGC
30
TP801
Q811
IMT2
SYNC AGC
Q817
2SC2412K
SYNC SGC
Q813
2SA1037K
SYNC AGC
Q815
2SC2412K
SYNC AGC
IC800 (2/3)
MC74HC4053
SWITCH
IC801 (1/2)
MC74HC4538
CLP P GENERATOR
IC801 (2/2)
MC74HC4538
CLP P GENERATOR
IC804 (1/2)
MC74HC4538
CLP P GENERATOR
IC800 (3/3)
MC74HC4053
SWITCH
IC804 (2/2)
MC74HC4538
CLP P GENERATOR
D805
1SS352
CLAMP
Q826
2SC3326N
BUFFER
D806
1SS352
CLAMP
Q827
2SC3326N
BUFFER
Y CLAMP PULSE (1/9)
37
37
IC805
QC7S02FU
CLP P GENERATOR
CLAMP PULSE SEL
H H_BLK L H_SYNC (8/9)
IC806 (1/3)
MC74HC4053
SWITCH
H BLK (1/9),(7/9)
SYNC SEP SEL (8/9)
27-45K
H NTSC_ETC L HD (8/9)
Q829
DTA144EKA-T146
H SYNC SEP SW
Q830
DTA144EKA-T146
H SYNC SEP SW
Q831
DTA144EKA-T146
H SYNC SEP SW
37-45K (8/9)
IC810
TC4W53FU
SWITCH
Q834
2SC2412K
BUFFER
COMP SYNC (1/9)
Q816
2SA1462
SYNC AGC
Q812
2SC2412K
SYNC AGC
Q809
2SC2412K
SYNC AGC
D803
1SS352
SYNC AGC
Q819
2SC2412K
SYNC AGC
TP802
CS
31
IC811
TC7WH123FU
IC803 (2/2)
MC74HC4538
H SYNC SEP
IC803 (1/2)
MC74HC4538
H SYNC SEP
Q825
2SA1037K
BUFFER
33
TP804
HS
IC806 (2/3)
MC74HC4053
SWITCH
HS
2HS
(1/9)
Q810
IMT2
SYNC AGC
Q814
2SA1037K
SYNC AGC
Q818
2SC2412K
SYNC AGC
Q828
2SA1037K
V SYNC SEP
D804
1SS352
Q822
2SC2412K
V SYNC SEP
32
TP803
VS
IC806 (3/3)
MC74HC4053
SWITCH
Q823
2SA1037K
BUFFER
VS
2VS
(1/9)
SYNC OUTPUT SW (8/9)
H 2HS. 2VS L HS VS
BK (9/9)
Y/C CLAMP PULSE GEN
H/V SYNC SEP. 2HS. 2VS/VS OUT
B-SS9676UC-BK -P9
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BK BK

## BK BOARD

*: B SIDE

|  |  |
|---|---|
| D1 | G-3 |
| D20 | C-4 |
| D102 | * A-1 |
| D103 | F-4 |
| D105 | * F-2 |
| D106 | * F-2 |
| D107 | E-2 |
| D108 | D-2 |
| D110 | * B-2 |
| D112 | * C-1 |
| D113 | * C-2 |
| D114 | * B-2 |
| D115 | * B-1 |
| D116 | B-2 |
| D117 | * B-1 |
| D118 | * B-1 |
| D121 | * D-2 |
| D125 | C-1 |
| D126 | * C-2 |
| D127 | * B-2 |
| D302 | * A-3 |
| D303 | F-5 |
| D305 | * F-3 |
| D306 | * F-3 |
| D307 | E-3 |
| D308 | D-3 |
| D310 | * B-3 |
| D312 | * C-3 |
| D313 | * C-3 |
| D314 | * B-3 |
| D315 | * B-3 |
| D316 | B-3 |
| D317 | * B-3 |
| D318 | * B-3 |
| D320 | * E-3 |
| D321 | * D-3 |
| D325 | C-3 |
| D326 | * C-3 |
| D327 | * B-3 |
| D502 | * A-2 |
| D503 | F-4 |
| D505 | * F-5 |
| D506 | * F-5 |
| D507 | E-5 |
| D508 | D-5 |
| D510 | * B-4 |
| D512 | * C-4 |
| D513 | * C-4 |
| D514 | * B-5 |
| D515 | * B-4 |
| D516 | B-4 |
| D517 | * B-4 |
| D518 | * B-4 |
| D520 | * E-5 |
| D521 | * D-5 |
| D525 | C-4 |
| D526 | * C-4 |
| D527 | * B-5 |
| D802 | B-7 |
| D803 | * B-7 |
| D804 | * C-6 |
| D805 | * C-6 |
| D806 | * C-6 |
| D900 | * F-6 |
| D901 | * D-6 |
| D902 | * D-6 |
| D903 | * D-6 |
| D904 | * E-6 |
| D905 | E-7 |
| D906 | D-5 |
| IC1 | G-1 |
| IC2 | G-2 |
| IC3 | G-3 |
| IC4 | G-3 |
| IC5 | E-1 |
| IC6 | F-1 |
| IC100 | F-2 |
| IC101 | F-1 |
| IC110 | E-2 |
| IC111 | D-2 |
| IC112 | D-2 |
| IC113 | D-2 |
| IC115 | D-2 |
| IC116 | D-2 |
| IC117 | D-2 |
| IC118 | C-2 |
| IC120 | B-2 |
| IC121 | C-2 |
| IC122 | C-2 |
| IC123 | B-2 |
| IC124 | C-2 |
| IC125 | C-1 |
| IC126 | C-1 |
| IC127 | B-2 |
| IC128 | B-2 |
| IC129 | B-2 |
| IC130 | B-1 |
| IC131 | A-1 |
| IC132 | B-1 |
| IC300 | F-3 |
| IC301 | F-3 |
| IC302 | F-3 |
| IC303 | F-3 |
| IC304 | F-3 |
| IC305 | F-3 |
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| IC311 | D-3 |
| IC312 | D-3 |
| IC313 | D-3 |
| IC315 | D-3 |
| IC316 | D-3 |
| IC317 | D-3 |
| IC318 | C-3 |
| IC320 | B-3 |
| IC321 | C-3 |
| IC322 | C-3 |
| IC323 | B-3 |
| IC324 | C-3 |
| IC325 | C-3 |
| IC326 | C-3 |
| IC327 | B-3 |
| IC328 | B-3 |
| IC329 | B-3 |
| IC330 | B-3 |
| IC331 | A-3 |
| IC332 | B-3 |
| IC500 | F-4 |
| IC501 | F-4 |
| IC502 | F-5 |
| IC503 | F-5 |
| IC504 | F-4 |
| IC505 | F-5 |
| IC506 | D-4 |
| IC507 | D-4 |
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| IC511 | D-4 |
| IC512 | D-5 |
| IC513 | D-5 |
| IC515 | D-5 |
| IC516 | D-4 |
| IC517 | D-5 |
| IC518 | C-4 |
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| IC525 | C-4 |
| IC526 | C-4 |
| IC527 | B-5 |
| IC528 | B-5 |
| IC529 | B-4 |
| IC530 | B-4 |
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| IC532 | B-4 |
| IC700 | E-6 |
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| IC703 | E-7 |
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| IC711 | B-6 |
| IC728 | A-7 |
| IC730 | A-6 |
| IC731 | A-6 |
| IC732 | A-6 |
| IC734 | A-6 |
| IC735 | A-6 |
| IC736 | A-6 |
| IC800 | B-6 |
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| IC900 | * F-6 |
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| IC902 | F-6 |
| IC903 | F-7 |
| IC904 | D-7 |
| IC905 | E-7 |
| IC906 | E-5 |
| IC907 | C-2 |
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| IC909 | C-3 |
| IC910 | E-3 |
| IC911 | C-5 |
| IC912 | F-6 |
| IC914 | F-6 |
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| Q101 | * A-1 |
| Q102 | F-4 |
| Q103 | * F-1 |
| Q104 | * F-1 |
| Q105 | * F-1 |
| Q108 | F-2 |
| Q109 | E-2 |
| Q110 | E-1 |
| Q115 | E-2 |
| Q116 | E-2 |
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| Q120 | * E-1 |
| Q121 | * D-1 |
| Q122 | * E-2 |
| Q124 | * D-2 |
| Q125 | * D-2 |
| Q130 | D-1 |
| Q131 | D-1 |
| Q132 | * D-1 |
| Q133 | * C-2 |
| Q134 | * B-2 |
| Q135 | * A-2 |
| Q136 | * A-1 |
| Q137 | * A-2 |
| Q138 | * B-2 |
| Q139 | * C-2 |
| Q300 | * A-3 |
| Q301 | * A-3 |
| Q302 | F-5 |
| Q303 | * F-3 |
| Q304 | * F-3 |
| Q305 | * F-3 |
| Q307 | * E-3 |
| Q308 | E-3 |
| Q310 | E-3 |
| Q311 | * E-4 |
| Q312 | * E-4 |
| Q315 | E-3 |
| Q316 | E-3 |
| Q317 | E-3 |
| Q320 | * E-3 |
| Q321 | * D-3 |
| Q322 | * E-3 |
| Q324 | * D-3 |
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| Q330 | D-3 |
| Q331 | D-3 |
| Q332 | * D-3 |
| Q333 | * B-3 |
| Q334 | * B-3 |
| Q335 | * B-3 |
| Q336 | * A-3 |
| Q337 | * A-3 |
| Q338 | * B-4 |
| Q500 | * A-2 |
| Q501 | * A-2 |
| Q502 | F-4 |
| Q503 | * F-4 |
| Q504 | * F-4 |
| Q505 | * F-4 |
| Q507 | * E-4 |
| Q508 | E-4 |
| Q510 | E-5 |
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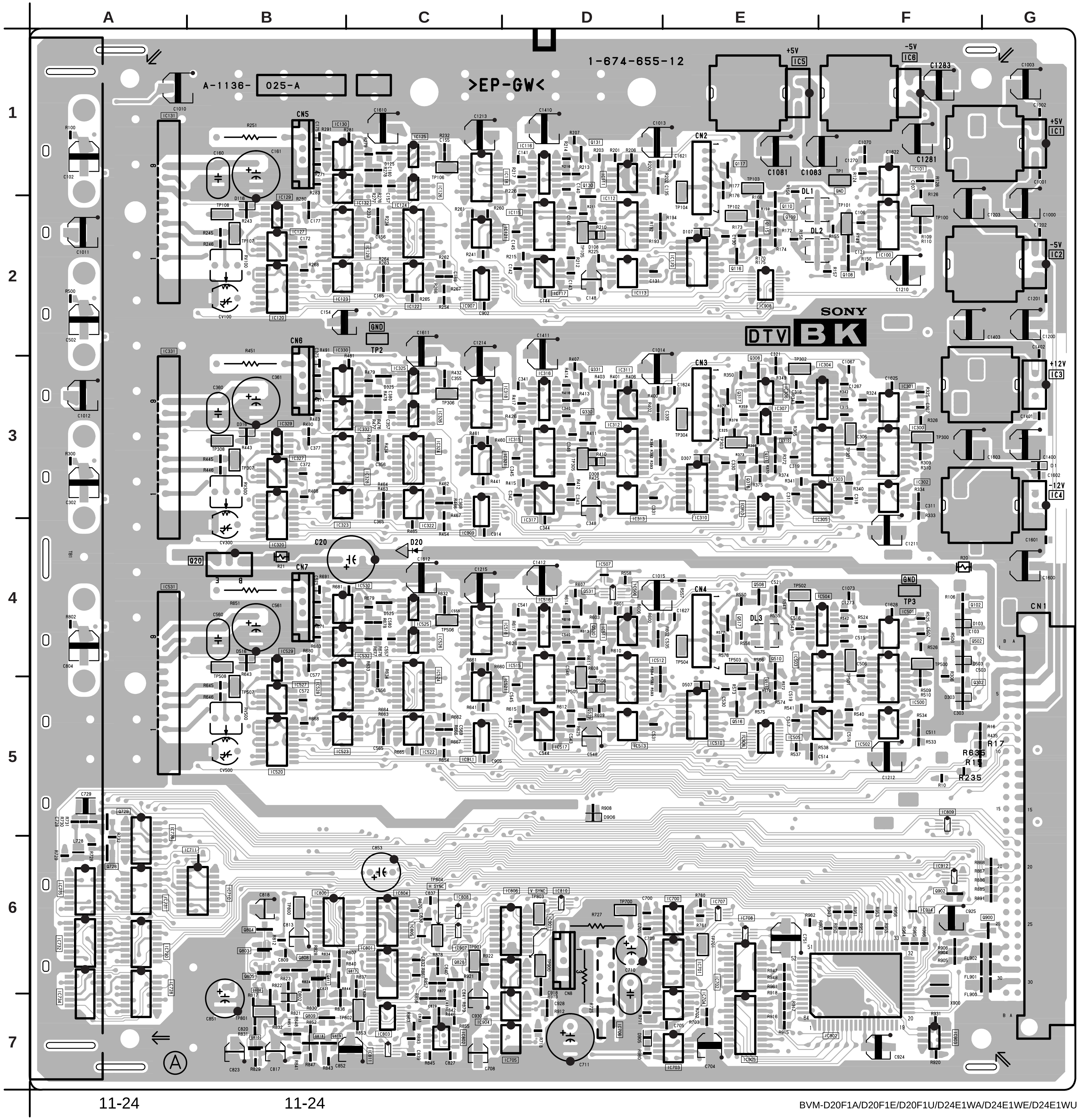
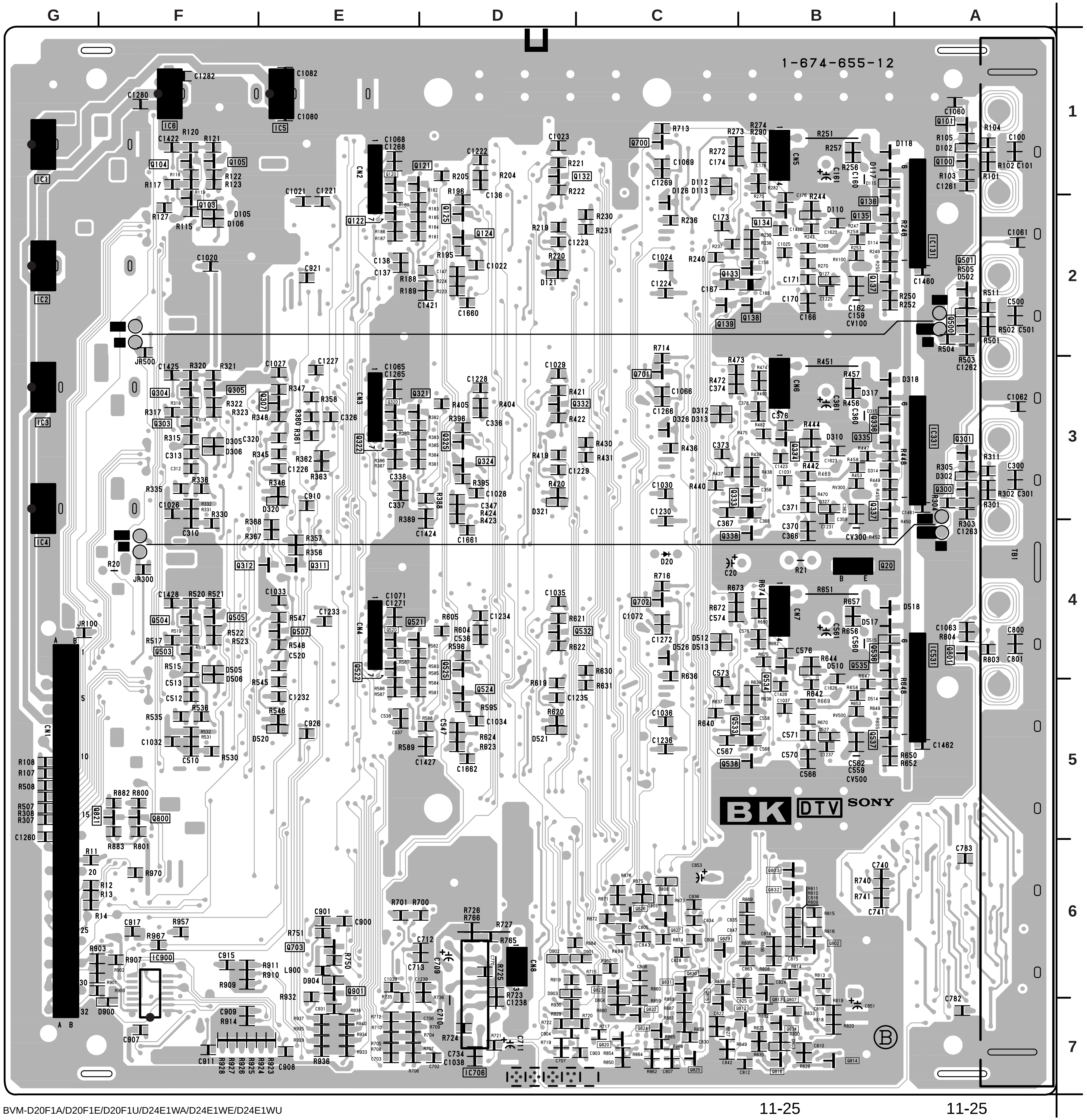
| Q520 | * D-4 |
| Q521 | * D-4 |
| Q522 | * D-4 |
| Q524 | * D-4 |
| Q525 | * D-4 |
| Q529 | D-5 |
| Q530 | D-4 |
| Q531 | D-4 |
| Q532 | * D-4 |
| Q533 | * B-5 |
| Q534 | * B-4 |
| Q535 | * A-4 |
| Q536 | * A-4 |
| Q537 | * A-5 |
| Q538 | * B-5 |
| Q700 | * C-1 |
| Q701 | * C-3 |
| Q702 | * C-4 |
| Q703 | * E-6 |
| Q728 | A-6 |
| Q729 | A-5 |
| Q800 | * F-5 |
| Q801 | * A-4 |
| Q802 | * B-6 |
| Q803 | B-6 |
| Q804 | B-6 |
| Q805 | B-6 |
| Q806 | B-7 |
| Q807 | * B-7 |
| Q808 | B-6 |
| Q809 | B-7 |
| Q810 | B-7 |
| Q811 | B-6 |
| Q812 | * B-7 |
| Q813 | * B-7 |
| Q814 | * B-7 |
| Q815 | * C-7 |
| Q816 | * B-7 |
| Q817 | C-6 |
| Q818 | C-7 |
| Q819 | C-7 |
| Q820 | * C-7 |
| Q821 | * F-5 |
| Q822 | * C-7 |
| Q823 | * C-6 |
| Q824 | * C-7 |
| Q825 | * C-7 |
| Q826 | * C-6 |
| Q827 | * C-6 |
| Q828 | C-6 |
| Q829 | * B-6 |
| Q830 | * C-6 |
| Q831 | * C-6 |
| Q832 | * B-6 |
| Q833 | * B-6 |
| Q834 | * B-7 |
| Q900 | G-6 |
| Q901 | * E-6 |
| Q902 | F-6 |

**BK –A SIDE–**

SUFFIX: -12

## BK BOARD




G
F
E
D
C
B
A
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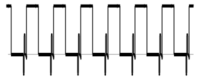
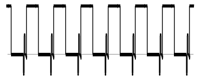
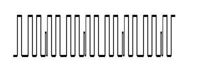
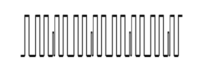
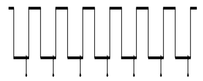
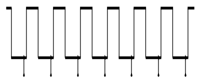
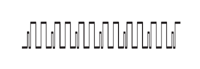
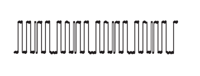
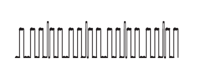
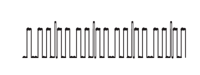
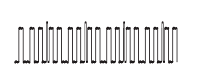
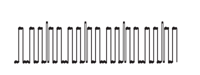
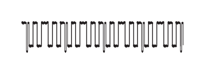
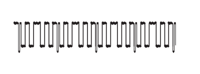
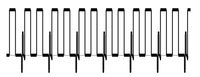
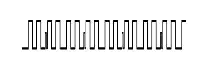
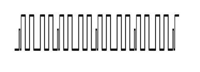
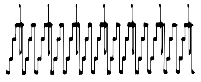
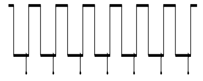
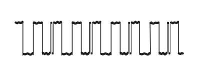
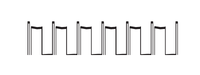
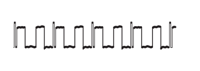
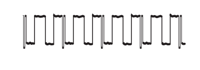
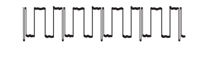
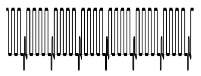
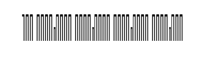
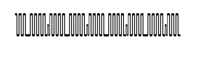
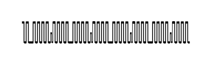
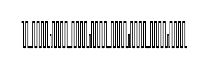
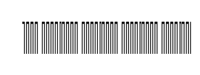
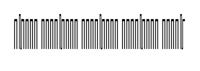
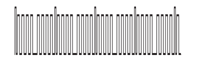
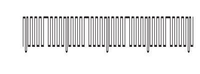
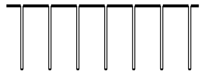
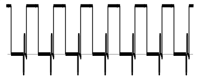
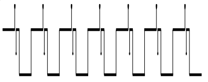
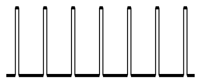
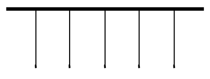
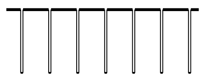
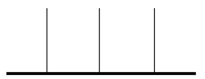
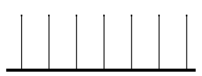
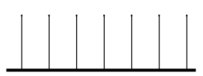
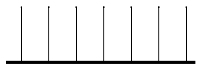
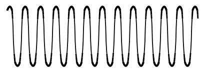
2
3
4
5
6
7
1-674-655-12
BK DTV SONY
IC1
IC2
IC3
IC4
IC5
IC6
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
IC131
IC331
IC531
IC706
IC900
TB1
JR500
JR300
JR100
Q20
D20
C20
R21

**BK** –B SIDE–

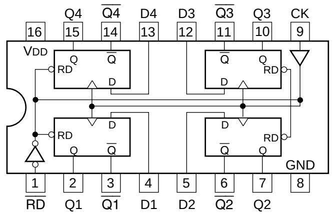
SUFFIX: -12

## BK BOARD WAVEFORMS

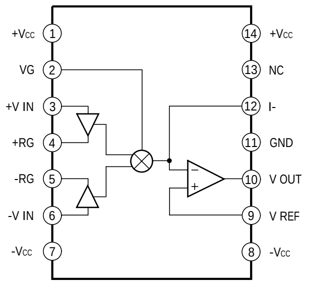
| | | | |
|---|---|---|---|
| ①<br><br>940.0mVp-p (H) | ②<br><br>1.1Vp-p (H) | ③ (D20)<br><br>1.0Vp-p (H) | ③ (D24)<br><br>0.5Vp-p (H) |
| ④ (D20)<br><br>540.0mVp-p (H) | ④ (D24)<br><br>400mVp-p (H) | ⑤<br><br>800.0mVp-p (H) | ⑥<br><br>960.0mVp-p (H) |
| ⑦ (D20)<br><br>1.2Vp-p (H) | ⑦ (D24)<br><br>0.85Vp-p (H) | ⑧ (D20)<br><br>1.3Vp-p (H) | ⑧ (D24)<br><br>1.15Vp-p (H) |
| ⑨ (D20)<br><br>38.0Vp-p (H) | ⑨ (D24)<br><br>33.4Vp-p (H) | ⑩<br><br>660.0mVp-p (H) | ⑪<br><br>800.0mVp-p (H) |
| ⑫<br><br>1.1Vp-p (H) | ⑬<br><br>400.0mVp-p (H) | ⑭<br><br>800.0mVp-p (H) | ⑮<br><br>920.0mVp-p (H) |
| ⑯<br><br>1.0Vp-p (H) | ⑰<br><br>1.3Vp-p (H) | ⑱ (D20)<br><br>36.0Vp-p (H) | ⑱ (D24)<br><br>38.8Vp-p (H) |
| ⑲<br><br>660.0mVp-p (H) | ⑳<br><br>800.0mVp-p (H) | ㉑<br><br>1.3Vp-p (H) | ㉒<br><br>600.0mVp-p (H) |
| ㉓<br><br>800.0mVp-p (H) | ㉔<br><br>960.0mVp-p (H) | ㉕<br><br>1.0Vp-p (H) | ㉖<br><br>1.4Vp-p (H) |
| ㉗<br><br>33.0Vp-p (H) | ㉘<br><br>104.0Vp-p (H) | ㉙<br><br>920.0Vp-p (H) | ㉚<br><br>1.4Vp-p (H) |

| | |
|---|---|
| ㉛<br><br>4.1Vp-p (H) | ㉜<br><br>4.4Vp-p (V) |
| ㉝<br><br>4.3Vp-p (H) | ㉞<br><br>4.8Vp-p (V) |
| ㉟<br><br>5.0Vp-p (H) | ㊱<br><br>5.0Vp-p (H) |
| ㊲<br><br>4.4Vp-p (H) | ㊳<br><br>5.7Vp-p (8MHz) |

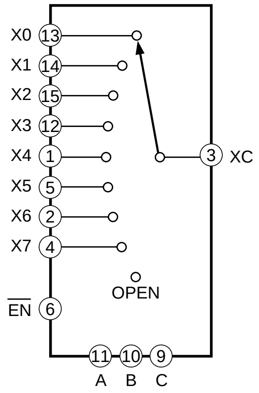
### 74HC175 (IC732)


Q4 Q̄4 D4 D3 Q̄3 Q3 CK
16 15 14 13 12 11 10 9
VDD
RD Q Q̄ D
GND
1 2 3 4 5 6 7 8
R̄D Q1 Q̄1 D1 D2 Q̄2 Q2

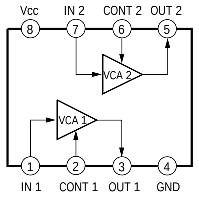
### CLC520AJE (IC116, 304, 316, 504, 516)


+Vcc 1
VG 2
+V IN 3
+RG 4
-RG 5
-V IN 6
-Vcc 7
14 +Vcc
13 NC
12 I-
11 GND
10 V OUT
9 V REF
8 -Vcc

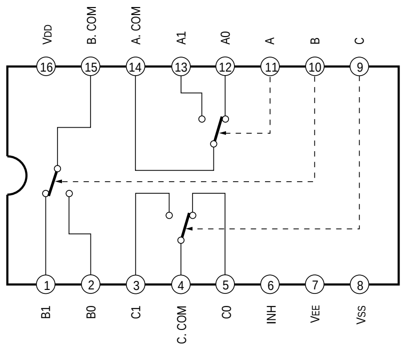
### MC74HC4051 (IC118, 318, 518)


X0 13
X1 14
X2 15
X3 12
X4 1
X5 5
X6 2
X7 4
3 XC
OPEN
ĒN 6
11 10 9
A B C

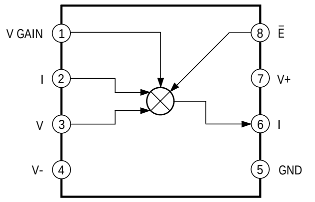
### CXA1211M (IC306)


Vcc IN 2 CONT 2 OUT 2
8 7 6 5
VCA 2
VCA 1
1 2 3 4
IN 1 CONT 1 OUT 1 GND

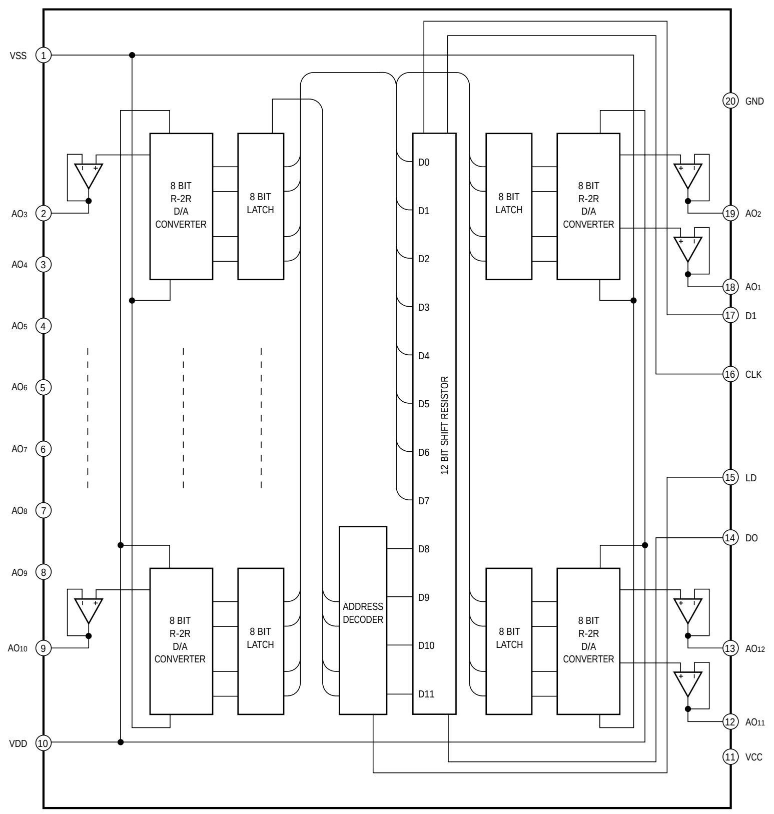
### 74HC4053 (IC100, 110, 112, 115, 120, 124, 128, 300, 303, 310, 312, 315, 320, 324, 328, 500, 503, 510, 512, 515, 520, 524, 528, 701, 702)


VDD B. COM A. COM A1 A0 A B C
16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
B1 B0 C1 C. COM C0 INH VEE VSS

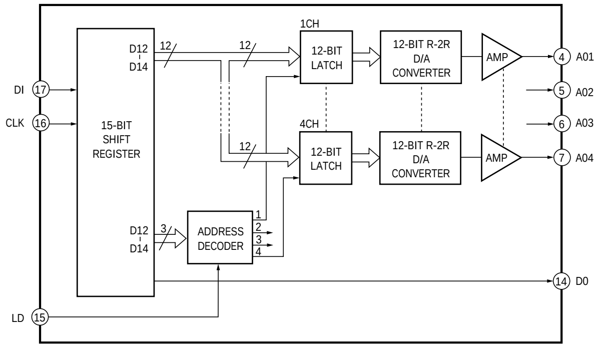
### EL2082CS (IC125, 126, 325, 326, 525, 526)


V GAIN 1
I 2
V 3
V- 4
8 Ē
7 V+
6 I
5 GND

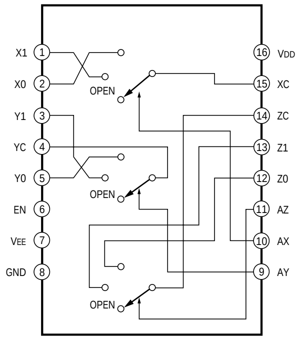
## MB88346 (IC908, 910)


VSS 1
AO3 2
AO4 3
AO5 4
AO6 5
AO7 6
AO8 7
AO9 8
AO10 9
VDD 10
20 GND
19 AO2
18 AO1
17 D1
16 CLK
15 LD
14 DO
13 AO12
12 AO11
11 VCC
8 BIT R-2R D/A CONVERTER
8 BIT LATCH
ADDRESS DECODER
12 BIT SHIFT RESISTOR
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11

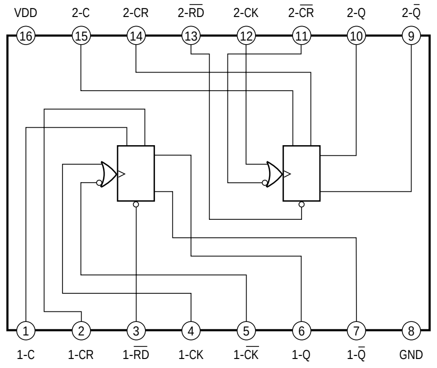
## MB88351 (IC906, 907, 909, 911)


DI 17
CLK 16
LD 15
15-BIT SHIFT REGISTER
D12
D14
12
1CH
4CH
12-BIT LATCH
12-BIT R-2R D/A CONVERTER
AMP
4 A01
5 A02
6 A03
7 A04
14 D0
3
ADDRESS DECODER
1
2
3
4

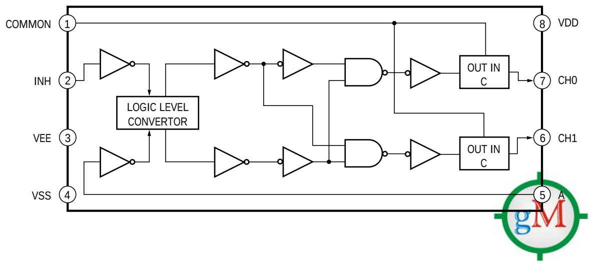
## MC74HC4053 (IC800, 806)


X1 1
X0 2
Y1 3
YC 4
Y0 5
EN 6
VEE 7
GND 8
16 VDD
15 XC
14 ZC
13 Z1
12 Z0
11 AZ
10 AX
9 AY
OPEN

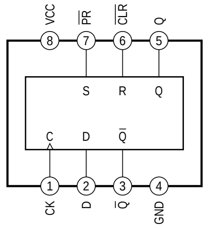
## MC74HC4538 (IC710, 801, 803, 804)


VDD 16
2-C 15
2-CR 14
2-RD 13
2-CK 12
2-CR 11
2-Q 10
2-Q 9
1 1-C
2 1-CR
3 1-RD
4 1-CK
5 1-CK
6 1-Q
7 1-Q
8 GND

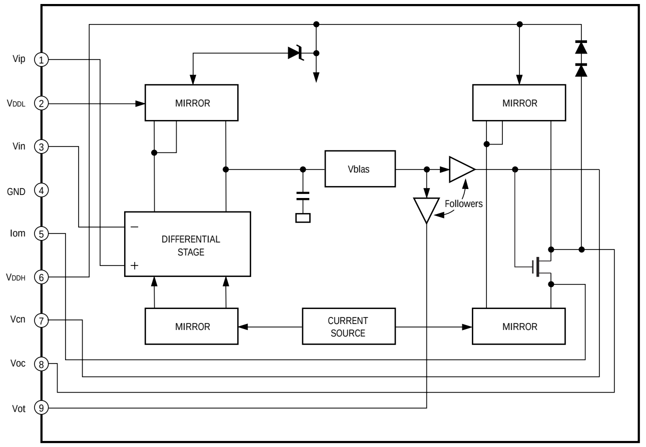
## TC4W53FU (IC506, 708, 808, 809, 810)


COMMON 1
INH 2
VEE 3
VSS 4
8 VDD
7 CH0
6 CH1
5
LOGIC LEVEL CONVERTOR
OUT IN C
gM

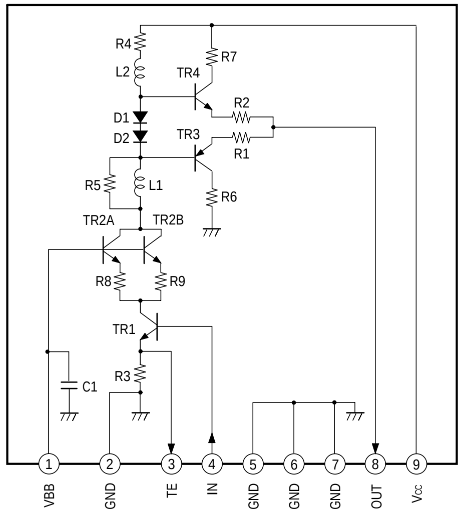
## TC7W74FU (IC707)


VCC 8
PR 7
CLR 6
Q 5
S
R
Q
C
D
Q
1 CK
2 D
3 Q
4 GND

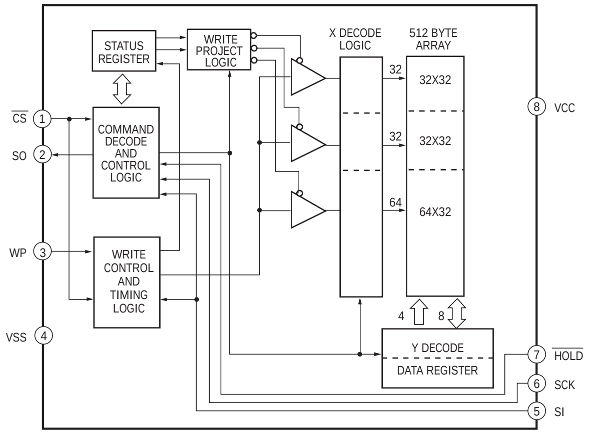
## TDA6101Q/N3 (IC706)


Vip 1
VDDL 2
Vin 3
GND 4
Iom 5
VDDH 6
Vcn 7
Voc 8
Vot 9
MIRROR
Vbias
Followers
DIFFERENTIAL STAGE
CURRENT SOURCE

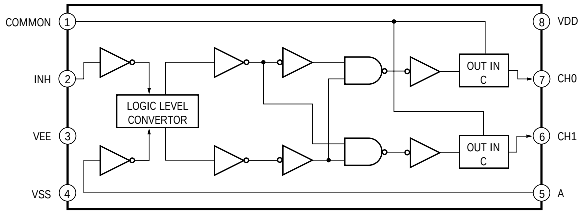
## VPJ05 (IC131, 331, 531)


R4
R7
L2
TR4
R2
D1
D2
TR3
R1
R5
L1
R6
TR2A
TR2B
R8
R9
TR1
R3
C1
1 VBB
2 GND
3 TE
4 IN
5 GND
6 GND
7 GND
8 OUT
9 Vcc

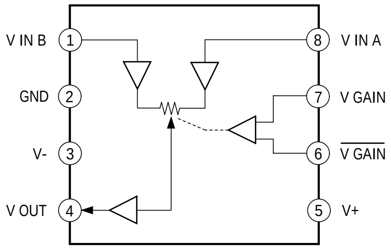
## X25040 (IC903)

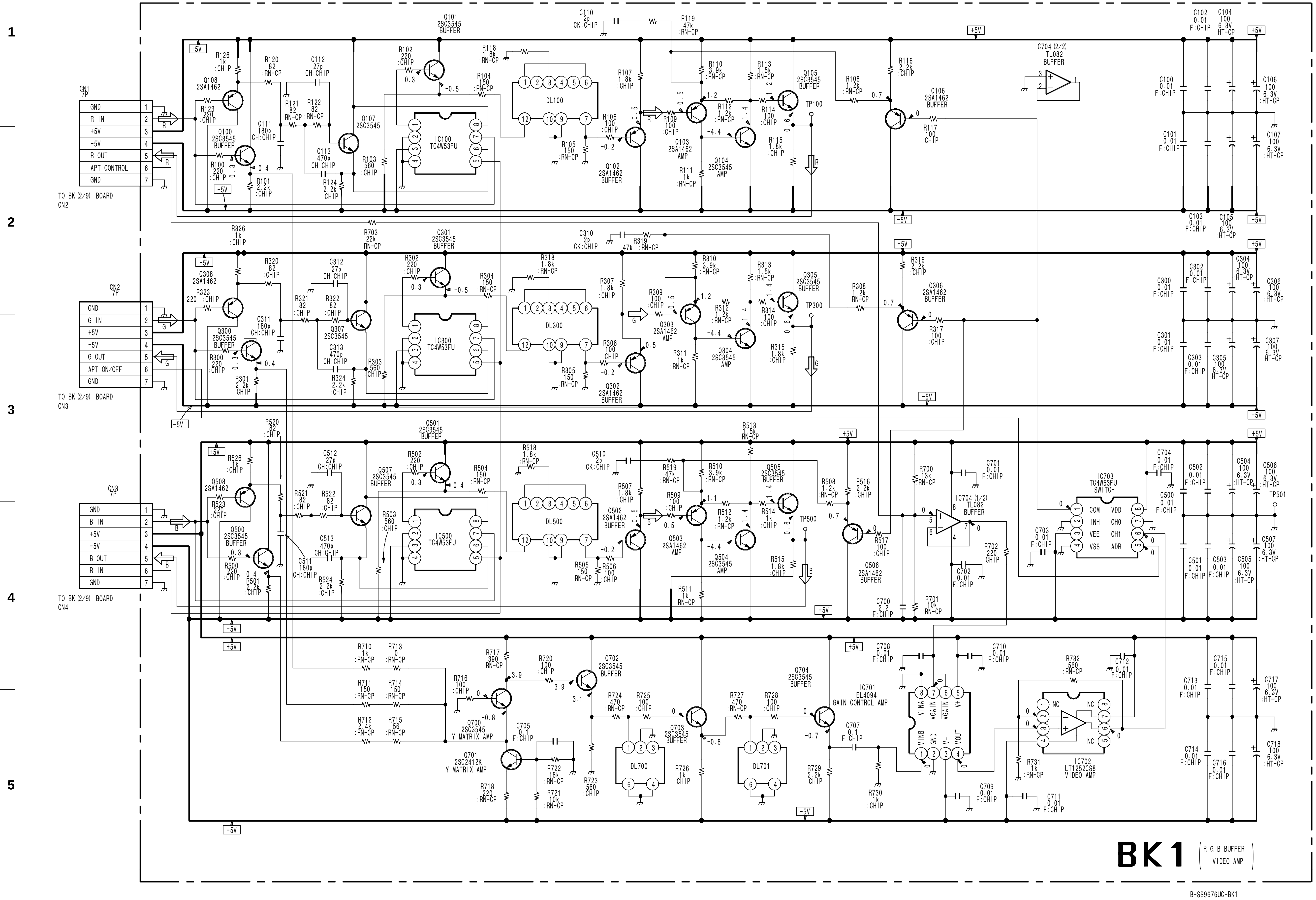

STATUS REGISTER
WRITE PROJECT LOGIC
X DECODE LOGIC
512 BYTE ARRAY
32
32X32
32
32X32
64
64X32
CS 1
SO 2
WP 3
VSS 4
COMMAND DECODE AND CONTROL LOGIC
WRITE CONTROL AND TIMING LOGIC
4
8
Y DECODE DATA REGISTER
8 VCC
7 HOLD
6 SCK
5 SI

## BK1 BOARD
## TC4W53FU (IC100, 300, 500, 703)


COMMON 1
INH 2
VEE 3
VSS 4
8 VDD
7 CH0
6 CH1
5 A
LOGIC LEVEL CONVERTOR
OUT IN C

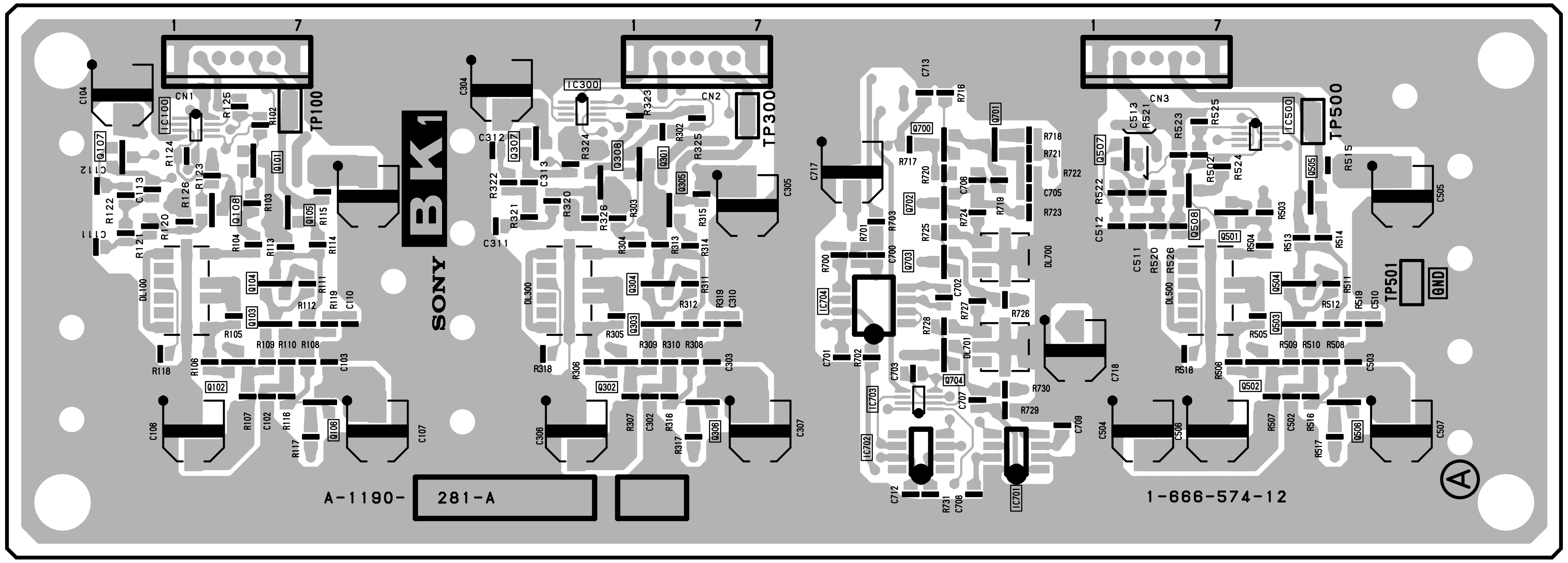
## EL4094 (IC701)


V IN B 1
GND 2
V- 3
V OUT 4
8 V IN A
7 V GAIN
6 V GAIN
5 V+


1
2
3
4
5
CN1 7P
GND
R IN
+5V
-5V
R OUT
APT CONTROL
GND
TO BK (2/9) BOARD CN2
CN2 7P
GND
G IN
+5V
-5V
G OUT
APT ON/OFF
GND
TO BK (2/9) BOARD CN3
CN3 7P
GND
B IN
+5V
-5V
B OUT
R IN
GND
TO BK (2/9) BOARD CN4
Q100 2SC3545 BUFFER
Q101 2SC3545 BUFFER
Q102 2SA1462 BUFFER
Q103 2SA1462 AMP
Q104 2SC3545 AMP
Q105 2SC3545 BUFFER
Q106 2SA1462 BUFFER
Q107 2SC3545
Q108 2SA1462
IC100 TC4W53FU
DL100
TP100
IC704 (2/2) TL082 BUFFER
Q300 2SC3545 BUFFER
Q301 2SC3545 BUFFER
Q302 2SA1462 BUFFER
Q303 2SA1462 AMP
Q304 2SC3545 AMP
Q305 2SC3545 BUFFER
Q306 2SA1462 BUFFER
Q307 2SC3545
Q308 2SA1462
IC300 TC4W53FU
DL300
TP300
Q500 2SC3545 BUFFER
Q501 2SC3545 BUFFER
Q502 2SA1462 BUFFER
Q503 2SA1462 AMP
Q504 2SC3545 AMP
Q505 2SC3545 BUFFER
Q506 2SA1462 BUFFER
Q507 2SC3545 BUFFER
Q508 2SA1462
IC500 TC4W53FU
DL500
TP500
IC704 (1/2) TL082 BUFFER
IC703 TC4W53FU SWITCH
COM VDD INH CH0 VEE CH1 VSS ADR
TP501
Q700 2SC3545 Y MATRIX AMP
Q701 2SC2412K Y MATRIX AMP
Q702 2SC3545 BUFFER
Q703 2SC3545 BUFFER
Q704 2SC3545 BUFFER
DL700
DL701
IC701 EL4094 GAIN CONTROL AMP
VINA VGAIN VGAIN V+ VINB GND V- VOUT
IC702 LT1252CS8 VIDEO AMP
+5V
-5V
BK1 (R.G.B BUFFER VIDEO AMP)
B-SS9676UC-BK1

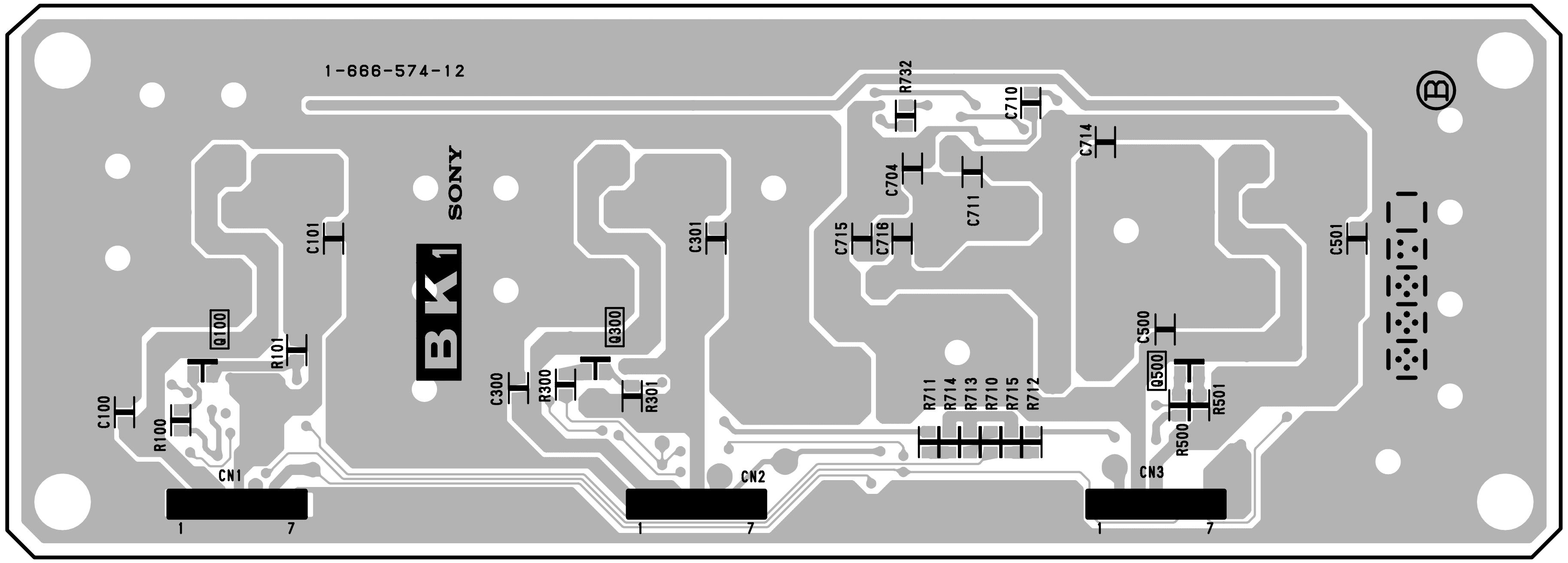
A B C D E F G H

## BK1 BOARD


CN1
CN2
CN3
1
7
TP100
TP300
TP500
TP501
GND
IC100
IC300
IC500
IC700
IC701
IC702
IC703
IC704
DL100
DL300
DL500
DL700
DL701
BK1
SONY
A-1190-
281-A
1-666-574-12
Ⓐ

**BK1** –A SIDE–

SUFFIX: -12

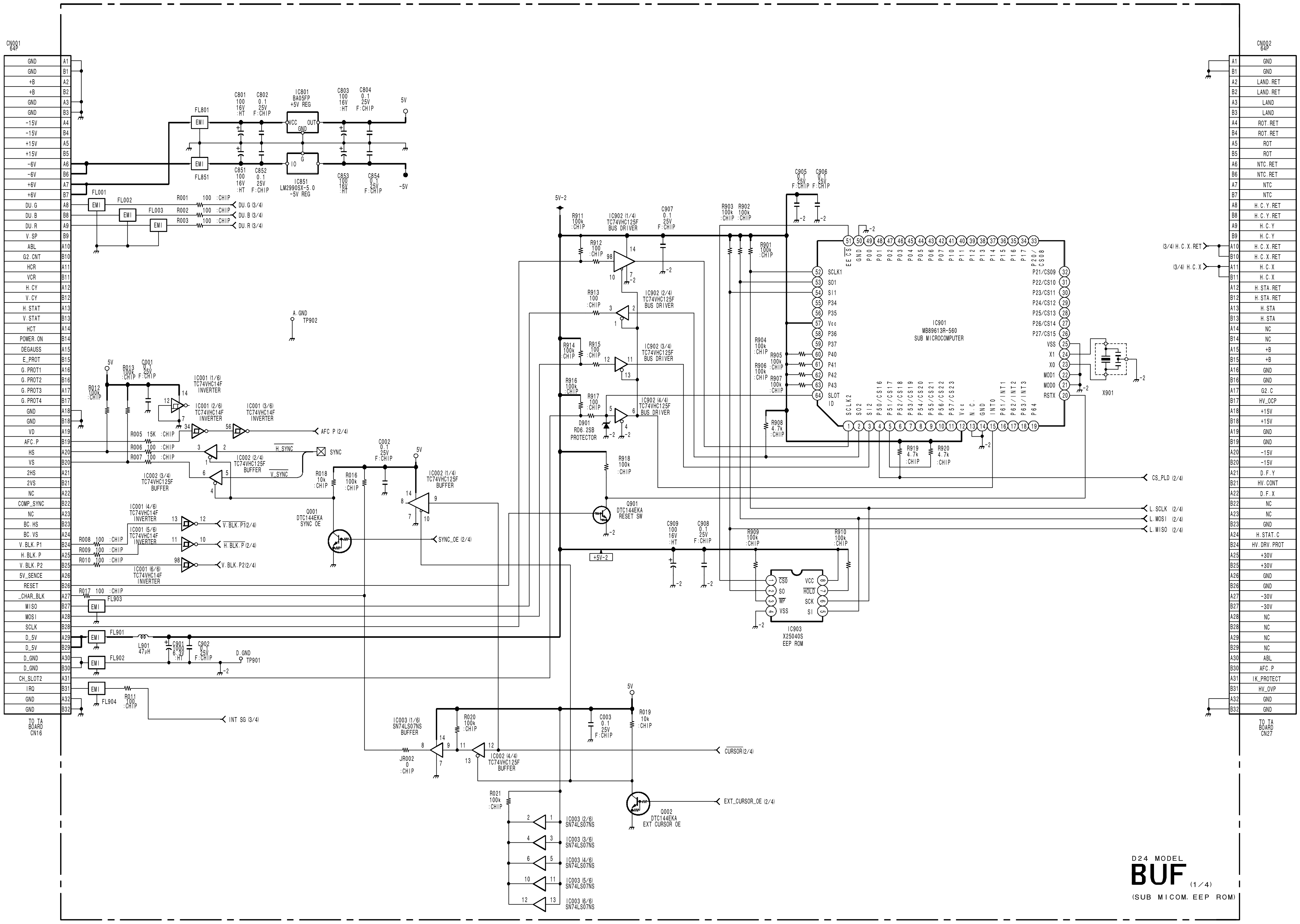

1-666-574-12
Ⓑ
SONY
BK1
C100
C101
C300
C301
C500
C501
C704
C710
C711
C714
C715
C716
Q100
Q300
Q500
R100
R101
R300
R301
R500
R501
R711
R714
R713
R710
R715
R712
R732
CN1
CN2
CN3
1
7

**BK1** –B SIDE–

SUFFIX: -12

**BUF (1/4)** **24 inch model**

**24 inch model**

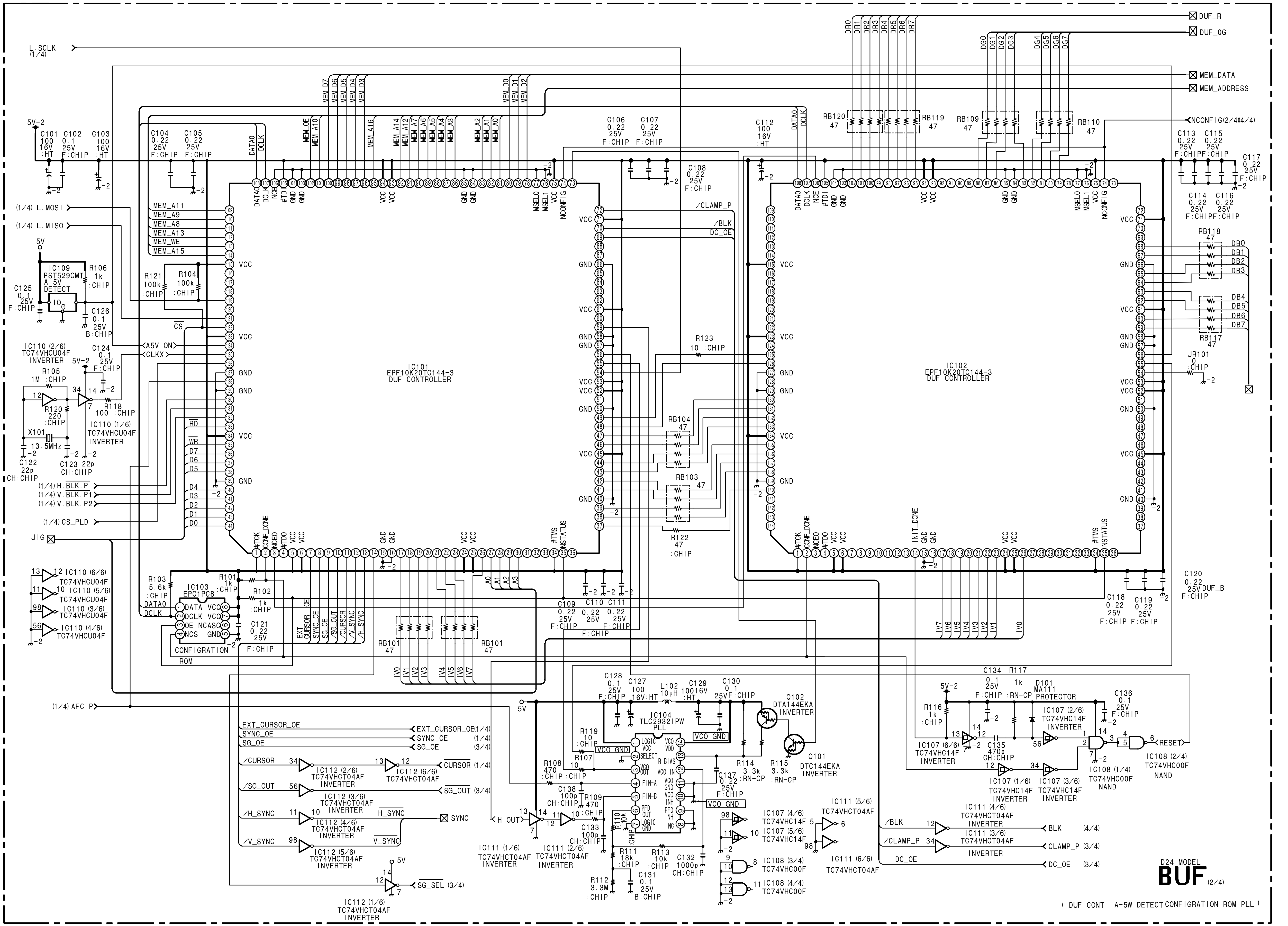

1
2
3
4
5
CN001 64P
GND
GND
+B
+B
GND
GND
-15V
-15V
+15V
+15V
-6V
-6V
+6V
+6V
DU.G
DU.B
DU.R
V.SP
ABL
G2.CNT
HCR
VCR
H.CY
V.CY
H.STAT
V.STAT
HCT
POWER.ON
DEGAUSS
E_PROT
G.PROT1
G.PROT2
G.PROT3
G.PROT4
GND
GND
VD
AFC.P
HS
VS
2HS
2VS
NC
COMP_SYNC
NC
BC.HS
BC.VS
V.BLK.P1
H.BLK.P
V.BLK.P2
5V_SENCE
RESET
_CHAR_BLK
MISO
MOSI
SCLK
D_5V
D_5V
D_GND
D_GND
CH_SLOT2
IRQ
GND
GND
TO TA BOARD CN16
FL801
FL851
IC801 BA05FP +5V REG
IC851 LM2990SX-5.0 -5V REG
C801 100 16V :HT
C802 0.1 25V F:CHIP
C803 100 16V :HT
C804 0.1 25V F:CHIP
C851 100 16V :HT
C852 0.1 25V F:CHIP
C853 100 16V :HT
C854 0.1 25V F:CHIP
5V
-5V
FL001
FL002
FL003
R001 100 :CHIP
R002 100 :CHIP
R003 100 :CHIP
DU.G (3/4)
DU.B (3/4)
DU.R (3/4)
A.GND TP902
5V
R013 100k :CHIP
C001 0.1 25V F:CHIP
R012 100k :CHIP
IC001 (1/6) TC74VHC14F INVERTER
IC001 (2/6) TC74VHC14F INVERTER
IC001 (3/6) TC74VHC14F INVERTER
AFC P (2/4)
R005 15K :CHIP
R006 100 :CHIP
R007 100 :CHIP
H_SYNC
SYNC
V_SYNC
IC002 (2/4) TC74VHC125F BUFFER
IC002 (3/4) TC74VHC125F BUFFER
C002 0.1 25V F:CHIP
IC002 (1/4) TC74VHC125F BUFFER
R018 10k :CHIP
R016 100k :CHIP
Q001 DTC144EKA SYNC OE
SYNC_OE (2/4)
IC001 (4/6) TC74VHC14F INVERTER
IC001 (5/6) TC74VHC14F INVERTER
IC001 (6/6) TC74VHC14F INVERTER
R008 100 :CHIP
R009 100 :CHIP
R010 100 :CHIP
V.BLK.P1 (2/4)
H.BLK.P (2/4)
V.BLK.P2 (2/4)
R017 100 :CHIP
FL903
FL901
L901 47μH
C901 1000 6.3V :HT
C902 0.1 25V F:CHIP
D.GND TP901
FL902
FL904
R011 100 :CHIP
INT SG (3/4)
5V-2
R911 100k :CHIP
R912 100 :CHIP
IC902 (1/4) TC74VHC125F BUS DRIVER
R913 100 :CHIP
IC902 (2/4) TC74VHC125F BUS DRIVER
R914 100k :CHIP
R915 100 :CHIP
IC902 (3/4) TC74VHC125F BUS DRIVER
R916 100k :CHIP
R917 100 :CHIP
IC902 (4/4) TC74VHC125F BUS DRIVER
D901 R06.2SB PROTECTOR
R918 100k :CHIP
Q901 DTC144EKA RESET SW
C907 0.1 25V F:CHIP
R903 100k :CHIP
R902 100k :CHIP
R901 100k :CHIP
C905 0.1 25V F:CHIP
C906 0.1 25V F:CHIP
IC901 MB89613R-560 SUB MICROCOMPUTER
SCLK1
SO1
SI1
P34
P35
Vcc
P36
P37
P40
P41
P42
P43
SLOT ID
P21/CS09
P22/CS10
P23/CS11
P24/CS12
P25/CS13
P26/CS14
P27/CS15
VSS
X1
X0
MOD1
MOD0
RSTX
X901
R904 100k :CHIP
R905 100k :CHIP
R906 100k :CHIP
R907 100k :CHIP
R908 4.7k :CHIP
R919 4.7k :CHIP
R920 4.7k :CHIP
CS_PLD (2/4)
L.SCLK (2/4)
L.MOSI (2/4)
L.MISO (2/4)
C909 100 16V :HT
C908 0.1 25V F:CHIP
+5V-2
R909 100k :CHIP
R910 100k :CHIP
IC903 X25040S EEP ROM
CS0
SO
WP
VSS
VCC
HOLD
SCK
SI
5V
R020 100k :CHIP
C003 0.1 25V F:CHIP
R019 10k :CHIP
IC003 (1/6) SN74LS07NS BUFFER
JR002 0 :CHIP
IC002 (4/4) TC74VHC125F BUFFER
CURSOR (2/4)
R021 100k :CHIP
Q002 DTC144EKA EXT CURSOR OE
EXT_CURSOR_OE (2/4)
IC003 (2/6) SN74LS07NS
IC003 (3/6) SN74LS07NS
IC003 (4/6) SN74LS07NS
IC003 (5/6) SN74LS07NS
IC003 (6/6) SN74LS07NS
(3/4) H.C.X.RET
(3/4) H.C.X
CN002 64P
GND
GND
LAND.RET
LAND.RET
LAND
LAND
ROT.RET
ROT.RET
ROT
ROT
NTC.RET
NTC.RET
NTC
NTC
H.C.Y.RET
H.C.Y.RET
H.C.Y
H.C.Y
H.C.X.RET
H.C.X.RET
H.C.X
H.C.X
H.STA.RET
H.STA.RET
H.STA
H.STA
NC
NC
+B
+B
GND
GND
G2.C
HV_OCP
+15V
+15V
GND
GND
-15V
-15V
D.F.Y
HV.CONT
D.F.X
NC
NC
GND
H.STAT.C
HV.DRV.PROT
+30V
+30V
GND
GND
-30V
-30V
NC
NC
NC
NC
ABL
AFC.P
IK_PROTECT
HV_OVP
GND
GND
TO TA BOARD CN27
D24 MODEL
BUF (1/4)
(SUB MICOM, EEP ROM)

B-SS9676UC-BUF-P1

11-30

A B C D E F G H

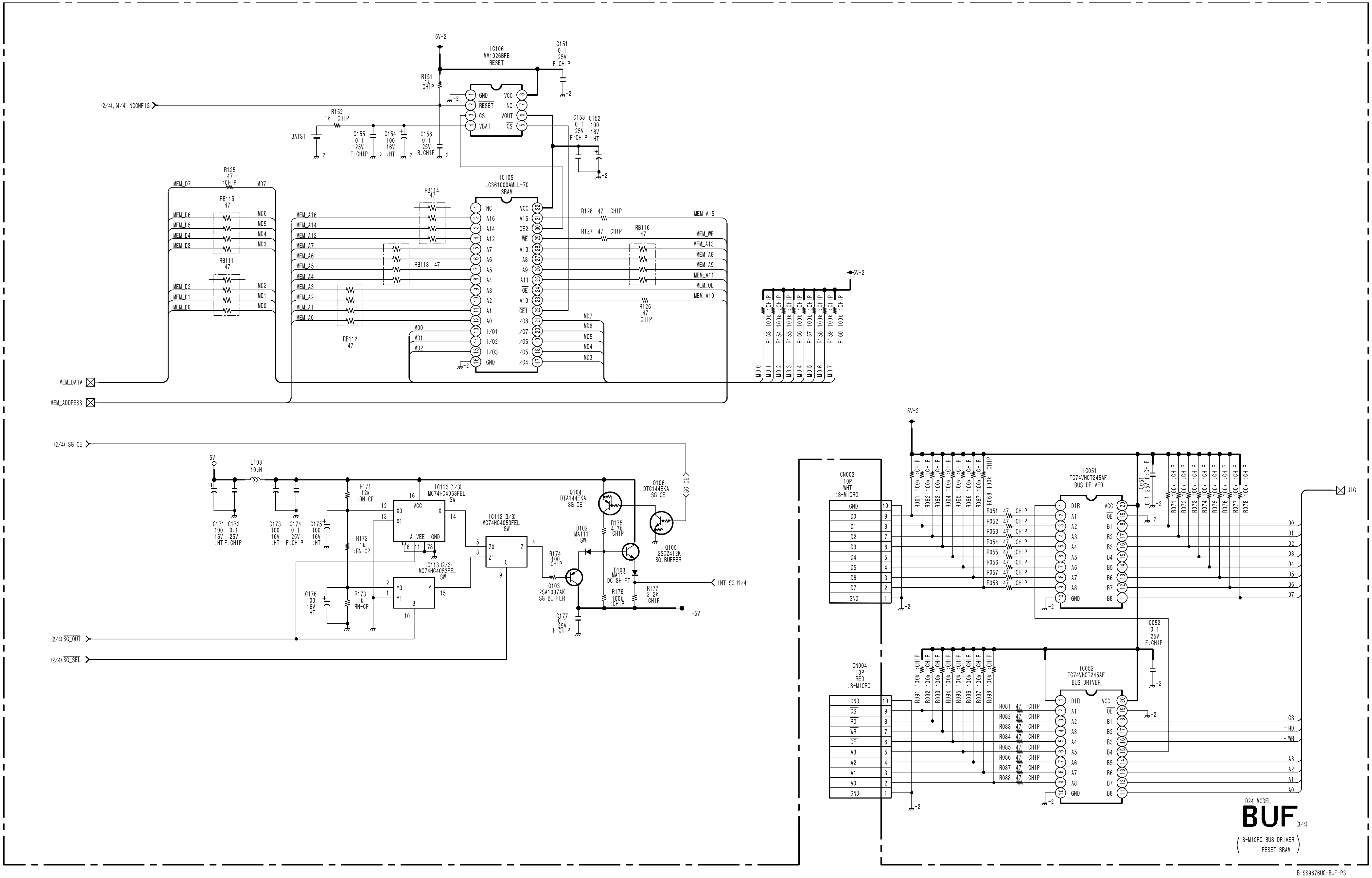
**BUF (2/4)** 24 inch model



L.SCLK (1/4)
5V-2
C101 100 16V :HT
C102 0.1 25V F:CHIP
C103 100 16V :HT
C104 0.22 25V F:CHIP
C105 0.22 25V F:CHIP
MEM_D7 MEM_D6 MEM_D5 MEM_D4 MEM_D3
MEM_OE MEM_A10
MEM_A16
MEM_A14 MEM_A12 MEM_A7 MEM_A6 MEM_A5 MEM_A4 MEM_A3
MEM_A2 MEM_A1 MEM_A0
MEM_D0 MEM_D1 MEM_D2
DATA0 DCLK
C106 0.22 25V F:CHIP
C107 0.22 25V F:CHIP
C108 0.22 25V F:CHIP
C112 100 16V :HT
RB120 47
RB119 47
RB109 47
RB110 47
DR0 DR1 DR2 DR3 DR4 DR5 DR6 DR7
DG0 DG1 DG2 DG3 DG4 DG5 DG6 DG7
DUF_R
DUF_OG
MEM_DATA
MEM_ADDRESS
NCONFIG(2/4)(4/4)
C113 0.22 25V F:CHIP
C115 0.22 25V F:CHIP
C117 0.22 25V F:CHIP
C114 0.22 25V F:CHIP
C116 0.22 25V F:CHIP
(1/4) L.MOSI
(1/4) L.MISO
MEM_A11 MEM_A9 MEM_A8 MEM_A13 MEM_WE MEM_A15
IC109 PST529CMT A.5V DETECT
R106 1k :CHIP
C125 0.1 25V F:CHIP
C126 0.1 25V B:CHIP
R121 100k :CHIP
R104 100k :CHIP
CS
IC110 (2/6) TC74VHCU04F INVERTER
A5V ON
CLKX
C124 0.1 25V F:CHIP
R105 1M :CHIP
R120 220 :CHIP
R118 100 :CHIP
IC110 (1/6) TC74VHCU04F INVERTER
X101 13.5MHz
C122 22p CH:CHIP
C123 22p CH:CHIP
RD WR D7 D6 D5 D4 D3 D2 D1 D0
(1/4) H.BLK.P
(1/4) V.BLK.P1
(1/4) V.BLK.P2
(1/4) CS_PLD
JIG
IC101 EPF10K20TC144-3 DUF CONTROLLER
IC102 EPF10K20TC144-3 DUF CONTROLLER
VCC GND
#TCK CONF_DONE NCEO #TDO
#TMS NSTATUS
MSEL0 MSEL1 VCC NCONFIG
/CLAMP_P
/BLK
DC_OE
R123 10 :CHIP
RB104 47
RB103 47
R122 47 :CHIP
INIT_DONE
RB118 47
DB0 DB1 DB2 DB3
DB4 DB5 DB6 DB7
RB117 47
JR101 0 :CHIP
C120 0.22 25V F:CHIP
DUF_B
C118 0.22 25V F:CHIP
C119 0.22 25V F:CHIP
IC110 (6/6) TC74VHCU04F
IC110 (5/6) TC74VHCU04F
IC110 (3/6) TC74VHCU04F
IC110 (4/6) TC74VHCU04F
R103 5.6k :CHIP
R101 1k :CHIP
R102 1k :CHIP
IC103 EPC1PC8
DATA VCC DCLK VCC OE NCASC NCS GND
CONFIGRATION ROM
C121 0.22 25V F:CHIP
EXT CURSOR_OE SYNC_OE SG_OUT /CURSOR /SG_OUT /V_SYNC /H_SYNC
A0 A1 A2 A3
RB101 47
RB101 47
IV0 IV1 IV2 IV3 IV4 IV5 IV6 IV7
C109 0.22 25V F:CHIP
C110 0.22 25V F:CHIP
C111 0.22 25V F:CHIP
(1/4) AFC P
5V
C128 0.1 25V F:CHIP
C127 100 16V:HT
L102 10μH
C129 100 16V :HT
C130 0.1 25V F:CHIP
Q102 DTA144EKA INVERTER
IC104 TLC2932IPW PLL
LOGIC VCC SELECT VCO OUT FIN-A FIN-B PFD OUT PFD INH LOGIC GND VCO VDD R BIAS VCO IN VCO GND VCO INH NC
VCO GND
R119 10 :CHIP
R107 10
R108 470 :CHIP
C138 100p CH:CHIP
R109 470 :CHIP
R110 10k :CHIP
C133 100p CH:CHIP
R111 18k :CHIP
R112 3.3M :CHIP
C131 0.1 25V B:CHIP
R113 10k :CHIP
C132 1000p CH:CHIP
C137 0.22 25V F:CHIP
R114 3.3k :RN-CP
R115 3.3k :RN-CP
Q101 DTC144EKA INVERTER
EXT_CURSOR_OE
SYNC_OE
SG_OE
EXT_CURSOR_OE (1/4)
SYNC_OE (1/4)
SG_OE (3/4)
/CURSOR
IC112 (2/6) TC74VHCT04AF INVERTER
IC112 (6/6) TC74VHCT04AF
CURSOR (1/4)
/SG_OUT
IC112 (3/6) TC74VHCT04AF INVERTER
SG_OUT (3/4)
/H_SYNC
H_SYNC
IC112 (4/6) TC74VHCT04AF INVERTER
SYNC
/V_SYNC
V_SYNC
IC112 (5/6) TC74VHCT04AF INVERTER
IC112 (1/6) TC74VHCT04AF INVERTER
SG_SEL (3/4)
H OUT
IC111 (1/6) TC74VHCT04AF INVERTER
IC111 (2/6) TC74VHCT04AF INVERTER
IC107 (4/6) TC74VHC14F
IC107 (5/6) TC74VHC14F
IC108 (3/4) TC74VHC00F
IC108 (4/4) TC74VHC00F
IC111 (5/6) TC74VHCT04AF
IC111 (6/6) TC74VHCT04AF
C134 0.1 25V F:CHIP
R117 1k :RN-CP
D101 MA111 PROTECTOR
R116 1k :CHIP
C135 470p CH:CHIP
IC107 (6/6) TC74VHC14F INVERTER
IC107 (2/6) TC74VHC14F INVERTER
IC107 (1/6) TC74VHC14F INVERTER
IC107 (3/6) TC74VHC14F INVERTER
IC108 (1/4) TC74VHC00F NAND
IC108 (2/4) TC74VHC00F NAND
C136 0.1 25V F:CHIP
RESET
/BLK
/CLAMP_P
DC_OE
IC111 (4/6) TC74VHCT04AF INVERTER
IC111 (3/6) TC74VHCT04AF INVERTER
BLK (4/4)
CLAMP_P (3/4)
DC_OE (3/4)
D24 MODEL
BUF (2/4)
( DUF CONT A-5W DETECT CONFIGRATION ROM PLL )
B-SS9676UC-BUF-P2

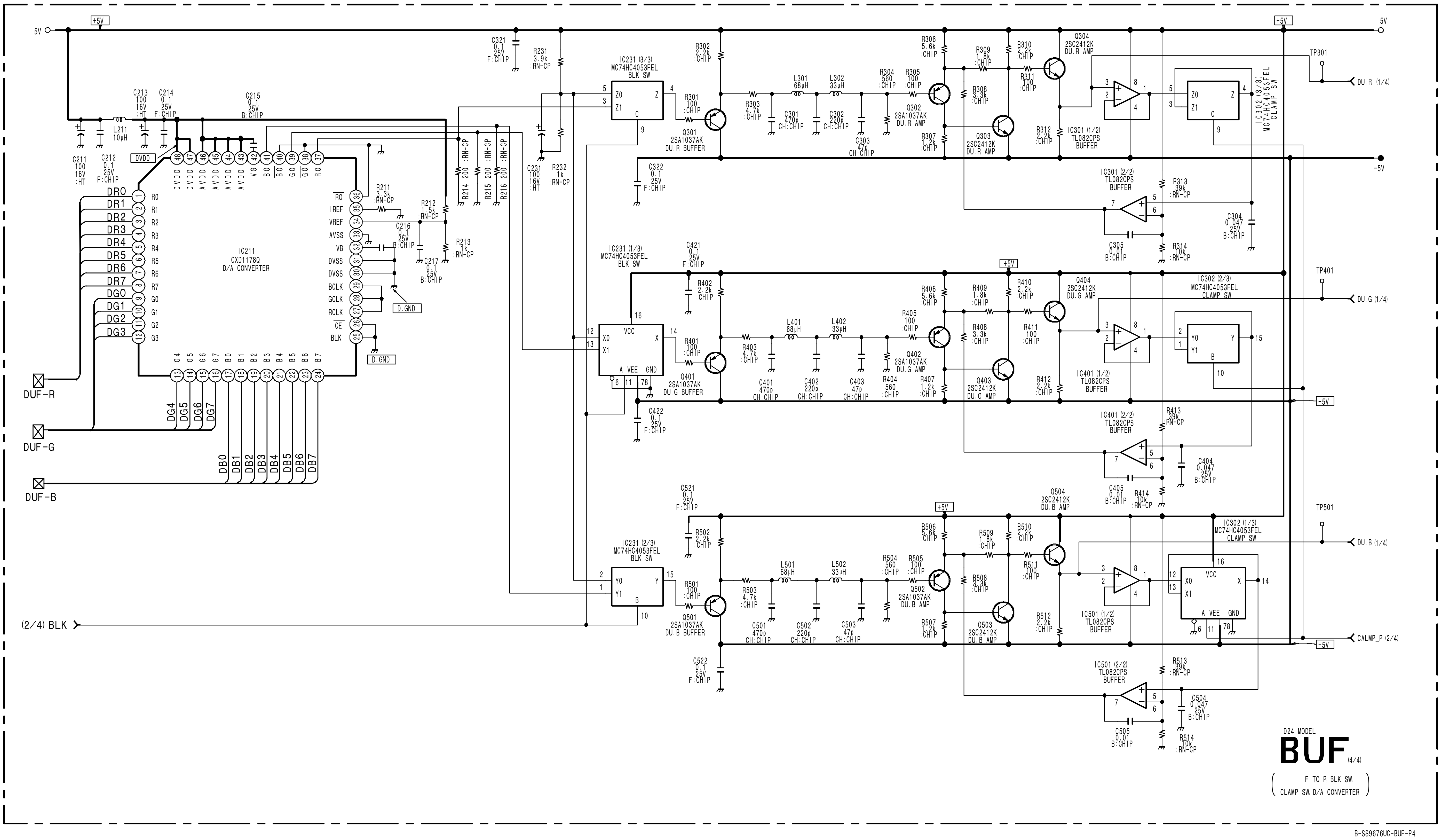
http://getMANUAL.com

**BUF (3/4)** 24 inch model


1
2
3
4
5
IC106
MM1026BFB
RESET
5V-2
R151 1k :CHIP
C151 0.1 25V F:CHIP
(2/4),(4/4) NCONFIG
R152 1k :CHIP
BATS1
C155 0.1 25V F:CHIP
C154 100 16V :HT
C156 0.1 25V B:CHIP
C153 0.1 25V F:CHIP
C152 100 16V :HT
GND
RESET
CS
VBAT
VCC
NC
VOUT
CS
IC105
LC361000AMLL-70
SRAM
R125 47 :CHIP
RB115 47
RB111 47
RB114 47
RB113 47
RB112 47
RB116 47
R128 47 :CHIP
R127 47 :CHIP
R126 47 :CHIP
MEM_D7
MEM_D6
MEM_D5
MEM_D4
MEM_D3
MEM_D2
MEM_D1
MEM_D0
MEM_A16
MEM_A14
MEM_A12
MEM_A7
MEM_A6
MEM_A5
MEM_A4
MEM_A3
MEM_A2
MEM_A1
MEM_A0
MEM_A15
MEM_WE
MEM_A13
MEM_A8
MEM_A9
MEM_A11
MEM_OE
MEM_A10
MD0
MD1
MD2
MD3
MD4
MD5
MD6
MD7
R153 100k :CHIP
R154 100k :CHIP
R155 100k :CHIP
R156 100k :CHIP
R157 100k :CHIP
R158 100k :CHIP
R159 100k :CHIP
R160 100k :CHIP
MEM_DATA
MEM_ADDRESS
(2/4) SG_OE
5V
L103 10μH
C171 100 16V :HT
C172 0.1 25V F:CHIP
C173 100 16V :HT
C174 0.1 25V F:CHIP
C175 100 16V :HT
R171 12k :RN-CP
R172 1k :RN-CP
R173 1k :RN-CP
C176 100 16V :HT
IC113 (1/3) MC74HC4053FEL SW
IC113 (2/3) MC74HC4053FEL SW
IC113 (3/3) MC74HC4053FEL SW
Q104 DTA144EKA SG OE
Q106 DTC144EKA SG OE
Q105 2SC2412K SG BUFFER
Q103 2SA1037AK SG BUFFER
D102 MA111 SW
D103 MA111 DC SHIFT
R174 100 :CHIP
R175 4.7k :CHIP
R176 100k :CHIP
R177 2.2k :CHIP
C177 1 25V F:CHIP
-5V
INT SG (1/4)
SG OE
(2/4) SG_OUT
(2/4) SG_SEL
5V-2
CN003 10P WHT :S-MICRO
GND
D0
D1
D2
D3
D4
D5
D6
D7
GND
R061 100k :CHIP
R062 100k :CHIP
R063 100k :CHIP
R064 100k :CHIP
R065 100k :CHIP
R066 100k :CHIP
R067 100k :CHIP
R068 100k :CHIP
R051 47 :CHIP
R052 47 :CHIP
R053 47 :CHIP
R054 47 :CHIP
R055 47 :CHIP
R056 47 :CHIP
R057 47 :CHIP
R058 47 :CHIP
IC051 TC74VHCT245AF BUS DRIVER
C051 0.1 25V F:CHIP
R071 100k :CHIP
R072 100k :CHIP
R073 100k :CHIP
R074 100k :CHIP
R075 100k :CHIP
R076 100k :CHIP
R077 100k :CHIP
R078 100k :CHIP
JIG
C052 0.1 25V F:CHIP
CN004 10P RED :S-MICRO
GND
CS
RD
WR
OE
A3
A2
A1
A0
GND
R091 100k :CHIP
R092 100k :CHIP
R093 100k :CHIP
R094 100k :CHIP
R095 100k :CHIP
R096 100k :CHIP
R097 100k :CHIP
R098 100k :CHIP
R081 47 :CHIP
R082 47 :CHIP
R083 47 :CHIP
R084 47 :CHIP
R085 47 :CHIP
R086 47 :CHIP
R087 47 :CHIP
R088 47 :CHIP
IC052 TC74VHCT245AF BUS DRIVER
DIR
VCC
OE
A1 A2 A3 A4 A5 A6 A7 A8
B1 B2 B3 B4 B5 B6 B7 B8
-CS
-RD
-WR
D24 MODEL
BUF (3/4)
S-MICRO BUS DRIVER
RESET SRAM
B-SS9676UC-BUF-P3

11-32

A B C D E F G H


5V
+5V
-5V
DVDD
D.GND
DUF-R
DUF-G
DUF-B
(2/4) BLK
DR0
DR1
DR2
DR3
DR4
DR5
DR6
DR7
DG0
DG1
DG2
DG3
DG4
DG5
DG6
DG7
DB0
DB1
DB2
DB3
DB4
DB5
DB6
DB7
IC211
CXD1178Q
D/A CONVERTER
C211 100 16V :HT
C212 0.1 25V F:CHIP
C213 100 16V :HT
C214 0.1 25V F:CHIP
L211 10μH
C215 0.1 25V B:CHIP
C216 0.1 25V B:CHIP
C217 0.1 25V B:CHIP
R211 3.3k :RN-CP
R212 1.5k :RN-CP
R213 1k :RN-CP
R214 200 :RN-CP
R215 200 :RN-CP
R216 200 :RN-CP
C231 100 16V :HT
R231 3.9k :RN-CP
R232 1k :RN-CP
C321 0.1 25V F:CHIP
IC231 (3/3) MC74HC4053FEL BLK SW
IC231 (1/3) MC74HC4053FEL BLK SW
IC231 (2/3) MC74HC4053FEL BLK SW
Q301 2SA1037AK DU.R BUFFER
Q302 2SA1037AK DU.R AMP
Q303 2SC2412K DU.R AMP
Q304 2SC2412K DU.R AMP
IC301 (1/2) TL082CPS BUFFER
IC301 (2/2) TL082CPS BUFFER
IC302 (3/3) MC74HC4053FEL CLAMP SW
TP301
DU.R (1/4)
L301 68μH
L302 33μH
C301 470p CH:CHIP
C302 220p CH:CHIP
C303 47p CH:CHIP
C304 0.047 25V B:CHIP
C305 0.01 B:CHIP
C322 0.1 25V F:CHIP
Q401 2SA1037AK DU.G BUFFER
Q402 2SA1037AK DU.G AMP
Q403 2SC2412K DU.G AMP
Q404 2SC2412K DU.G AMP
IC401 (1/2) TL082CPS BUFFER
IC401 (2/2) TL082CPS BUFFER
IC302 (2/3) MC74HC4053FEL CLAMP SW
TP401
DU.G (1/4)
L401 68μH
L402 33μH
C401 470p CH:CHIP
C402 220p CH:CHIP
C403 47p CH:CHIP
C404 0.047 25V B:CHIP
C405 0.01 B:CHIP
C421 0.1 25V F:CHIP
C422 0.1 25V F:CHIP
Q501 2SA1037AK DU.B BUFFER
Q502 2SA1037AK DU.B AMP
Q503 2SC2412K DU.B AMP
Q504 2SC2412K DU.B AMP
IC501 (1/2) TL082CPS BUFFER
IC501 (2/2) TL082CPS BUFFER
IC302 (1/3) MC74HC4053FEL CLAMP SW
TP501
DU.B (1/4)
CALMP_P (2/4)
L501 68μH
L502 33μH
C501 470p CH:CHIP
C502 220p CH:CHIP
C503 47p CH:CHIP
C504 0.047 25V B:CHIP
C505 0.01 B:CHIP
C521 0.1 25V F:CHIP
C522 0.1 25V F:CHIP
D24 MODEL
BUF (4/4)
F TO P. BLK SW
CLAMP SW D/A CONVERTER
B-SS9676UC-BUF-P4
1
2
3
4
5
A
B
C
D
E
F
G
H

## BUF BOARD

*: B SIDE

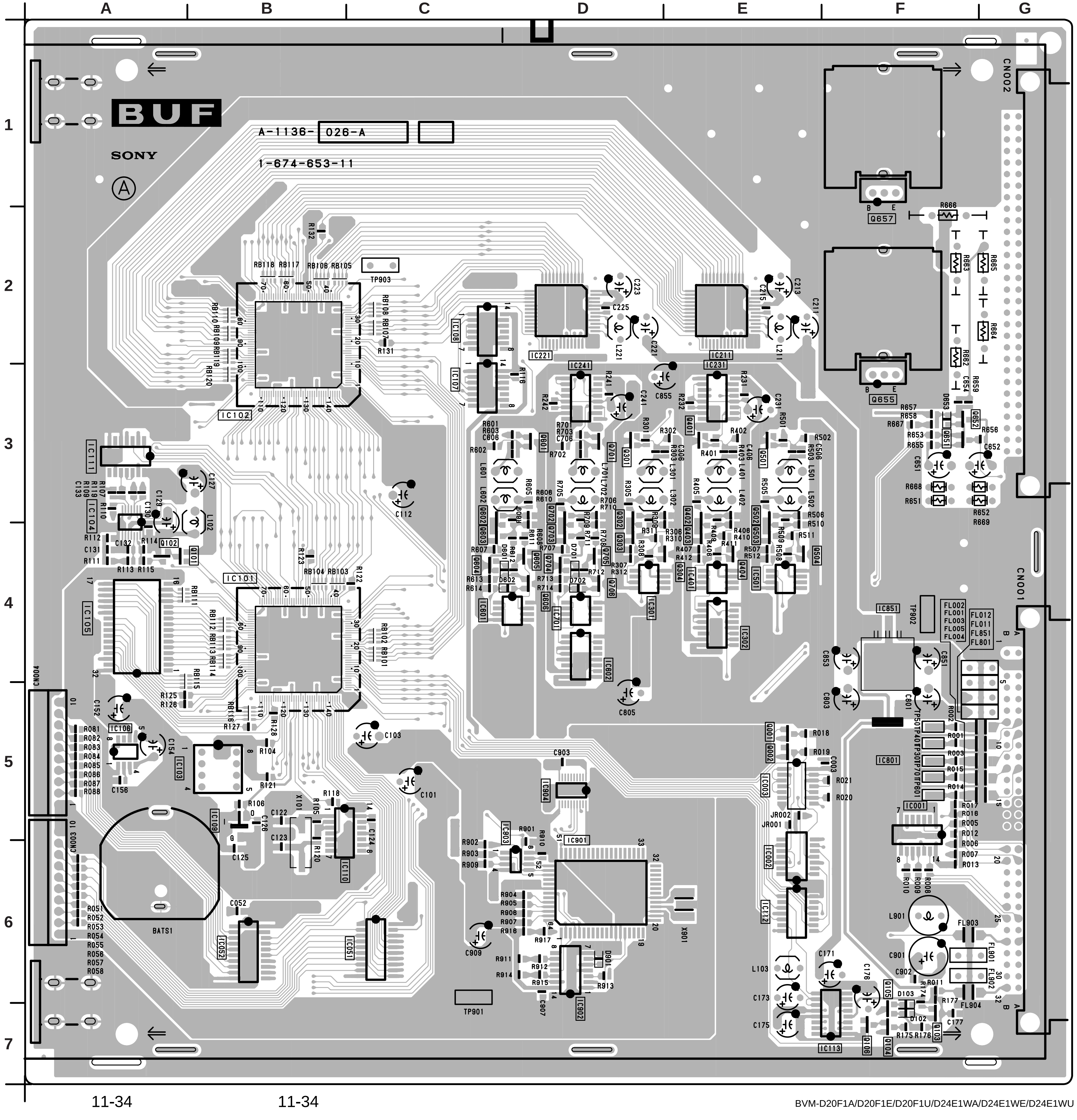
| | |
|---|---|
| D101 | * C-3 |
| D102 | F-6 |
| D103 | F-6 |
| D601 | C-4 |
| D602 | C-4 |
| D701 | D-4 |
| D702 | D-4 |
| D901 | D-6 |
| | |
| IC001 | F-5 |
| IC002 | E-5 |
| IC003 | E-5 |
| IC051 | C-6 |
| IC052 | B-6 |
| IC104 | A-3 |
| IC105 | A-4 |
| IC106 | A-5 |
| IC107 | C-3 |
| IC108 | C-2 |
| IC109 | B-5 |
| IC110 | C-6 |
| IC111 | A-3 |
| IC112 | E-6 |
| IC113 | F-7 |
| IC201 | |
| IC202 | |
| IC203 | |
| IC204 | |
| IC205 | |
| IC211 | E-2 |
| IC221 | D-2 |
| IC231 | E-3 |
| IC241 | D-3 |
| IC301 | D-4 |
| IC302 | E-4 |
| IC401 | E-4 |
| IC501 | E-4 |
| IC601 | D-4 |
| IC602 | D-4 |
| IC701 | D-4 |
| IC801 | F-5 |
| IC851 | F-4 |
| IC901 | D-6 |
| IC902 | D-6 |
| IC903 | D-6 |

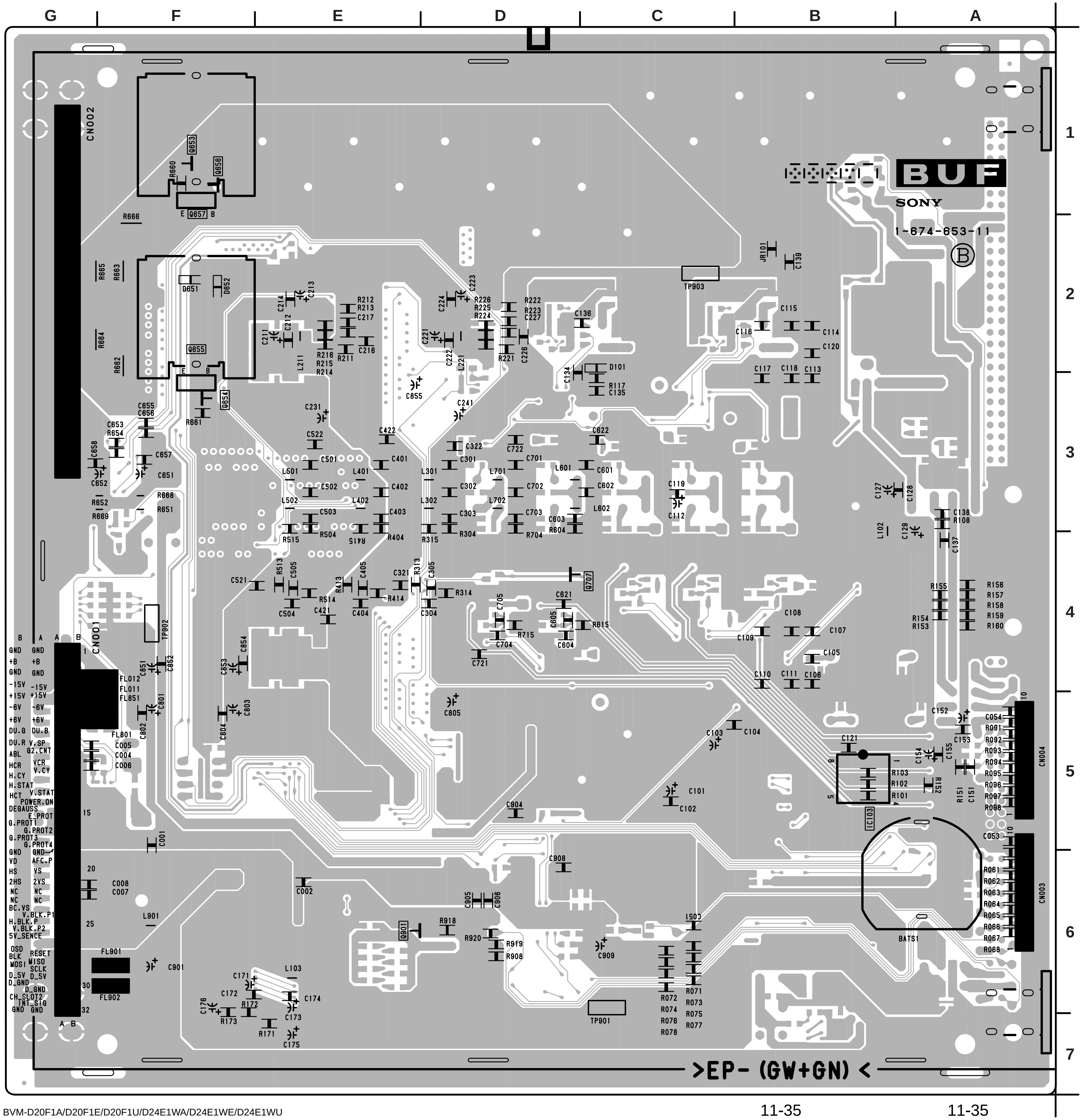
| | |
|---|---|
| Q001 | E-5 |
| Q002 | E-5 |
| Q101 | A-4 |
| Q102 | A-4 |
| Q103 | B-7 |
| Q104 | F-7 |
| Q105 | F-6 |
| Q106 | F-7 |
| Q301 | D-3 |
| Q302 | D-3 |
| Q303 | D-4 |
| Q304 | E-4 |
| Q401 | E-3 |
| Q402 | E-3 |
| Q403 | E-4 |
| Q404 | E-4 |
| Q501 | E-3 |
| Q502 | E-3 |
| Q503 | E-4 |
| Q504 | E-4 |
| Q601 | D-3 |
| Q602 | C-3 |
| Q603 | C-4 |
| Q604 | C-4 |
| Q605 | D-4 |
| Q606 | D-4 |
| Q701 | D-3 |
| Q702 | D-3 |
| Q703 | D-4 |
| Q704 | D-4 |
| Q705 | D-4 |
| Q706 | D-4 |
| Q707 | * D-4 |
| Q901 | * E-6 |
| | |
| TP901 | C-6 |
| TP902 | F-4 |

## BUF –A SIDE–

SUFFIX: -11

## BUF BOARD

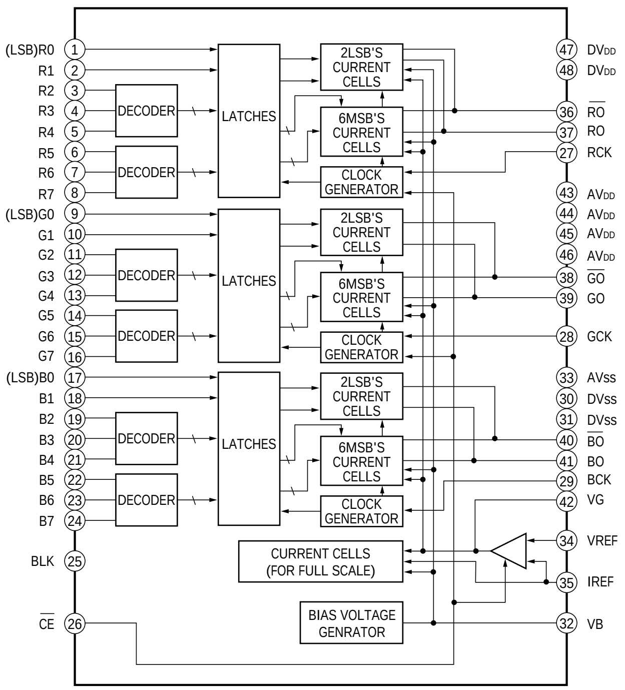

A
B
C
D
E
F
G
1
2
3
4
5
6
7
BUF
SONY
A-1136-026-A
1-674-653-11
CN002
CN001
CN004
CN003
IC102
IC101
BATS1
TP901
TP902
TP903
X101
X901


G
F
E
D
C
B
A
1
2
3
4
5
6
7
BUF
SONY
1-674-653-11
CN002
CN001
CN003
CN004
IC103
BATS1
TP901
TP902
TP903
Q653
Q654
Q655
Q656
Q657
Q707
Q901
GND
+B
-15V
+15V
-6V
+6V
DU.G
DU.B
DU.R
V.SP
ABL
G2.CNT
HCR
VCR
H.CY
V.CY
H.STAT
HCT
V.STAT
POWER.ON
DEGAUSS
E_PROT
G.PROT1
G.PROT2
G.PROT3
G.PROT4
VD
AFC.P
HS
VS
2HS
2VS
NC
BC.VS
V.BLK.P1
H.BLK.P
V.BLK.P2
5V_SENCE
OSD
RESET
BLK
MISO
MOSI
SCLK
D_5V
D_GND
CH_SLOT2
INT_SIG
FL011
FL012
FL801
FL851
FL901
FL902
>EP- (GW+GN)<

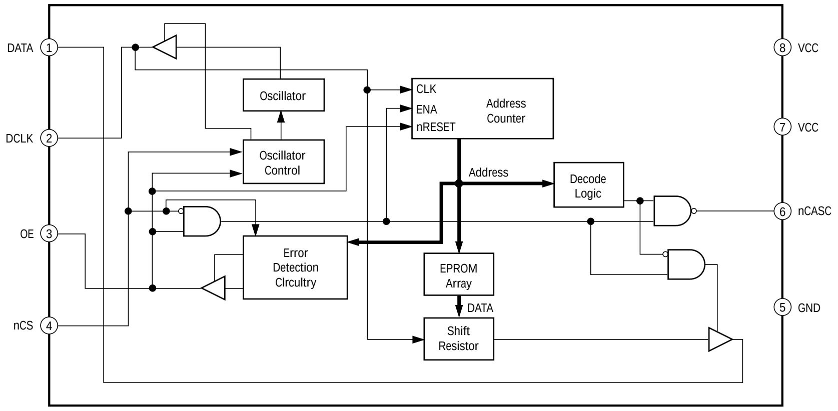
**BUF** –B SIDE–

SUFFIX: -11

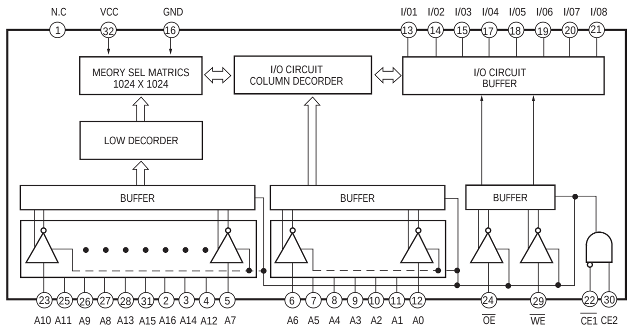
## CXD1178Q (IC211, 221)


(LSB)R0 1
R1 2
R2 3
R3 4
R4 5
R5 6
R6 7
R7 8
(LSB)G0 9
G1 10
G2 11
G3 12
G4 13
G5 14
G6 15
G7 16
(LSB)B0 17
B1 18
B2 19
B3 20
B4 21
B5 22
B6 23
B7 24
BLK 25
CE 26
DECODER
LATCHES
2LSB'S CURRENT CELLS
6MSB'S CURRENT CELLS
CLOCK GENERATOR
CURRENT CELLS (FOR FULL SCALE)
BIAS VOLTAGE GENRATOR
47 DVDD
48 DVDD
36 RO
37 RO
27 RCK
43 AVDD
44 AVDD
45 AVDD
46 AVDD
38 GO
39 GO
28 GCK
33 AVSS
30 DVSS
31 DVSS
40 BO
41 BO
29 BCK
42 VG
34 VREF
35 IREF
32 VB

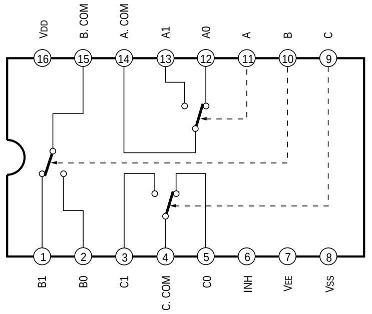
## EPC1PC8 (IC103)


DATA 1
DCLK 2
OE 3
nCS 4
8 VCC
7 VCC
6 nCASC
5 GND
Oscillator
Oscillator Control
CLK
ENA
nRESET
Address Counter
Address
Decode Logic
Error Detection Circuitry
EPROM Array
DATA
Shift Resistor

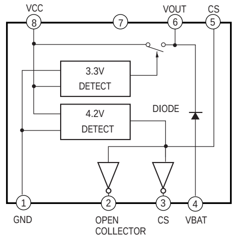
## LC361000AMLL-70 (IC105)


N.C
VCC
GND
1
32
16
I/01 I/02 I/03 I/04 I/05 I/06 I/07 I/08
13 14 15 17 18 19 20 21
MEORY SEL MATRICS 1024 X 1024
I/O CIRCUIT COLUMN DECORDER
I/O CIRCUIT BUFFER
LOW DECORDER
BUFFER
BUFFER
BUFFER
23 25 26 27 28 31 2 3 4 5
A10 A11 A9 A8 A13 A15 A16 A14 A12 A7
6 7 8 9 10 11 12
A6 A5 A4 A3 A2 A1 A0
24 OE
29 WE
22 CE1
30 CE2

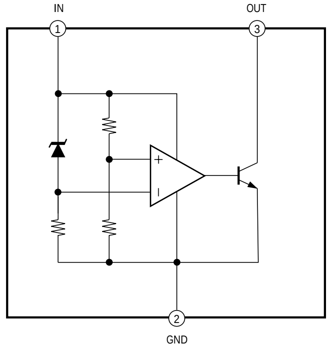
## MC74HC4053F (IC113, 231, 241, 302, 602)


VDD 16
B. COM 15
A. COM 14
A1 13
A0 12
A 11
B 10
C 9
B1 1
B0 2
C1 3
C. COM 4
C0 5
INH 6
VEE 7
VSS 8

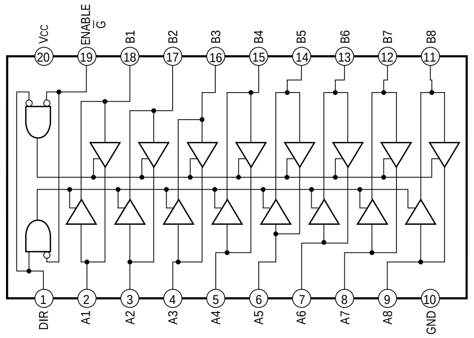
## MM1026BFB (IC106)


VCC 8
7
VOUT 6
CS 5
3.3V DETECT
4.2V DETECT
DIODE
GND 1
OPEN COLLECTOR 2
CS 3
VBAT 4

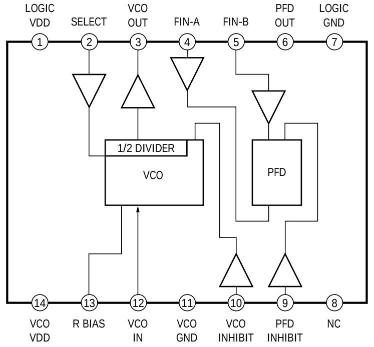
## PST529CMT (IC109)


IN 1
OUT 3
+
-
GND 2

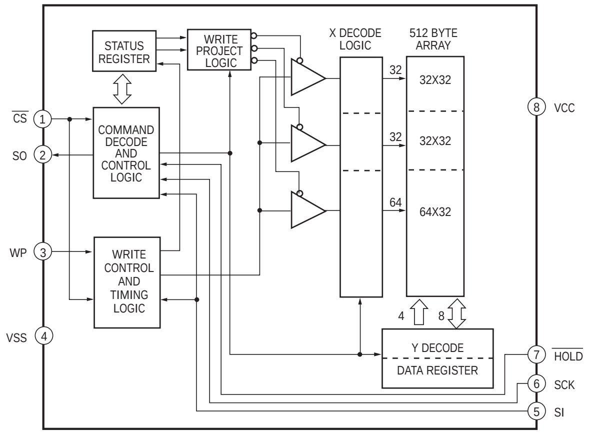
## TC74VHCT245AF (IC051, 052, 201, 202, 203, 204, 205)


VCC 20
ENABLE G 19
B1 18
B2 17
B3 16
B4 15
B5 14
B6 13
B7 12
B8 11
DIR 1
A1 2
A2 3
A3 4
A4 5
A5 6
A6 7
A7 8
A8 9
GND 10

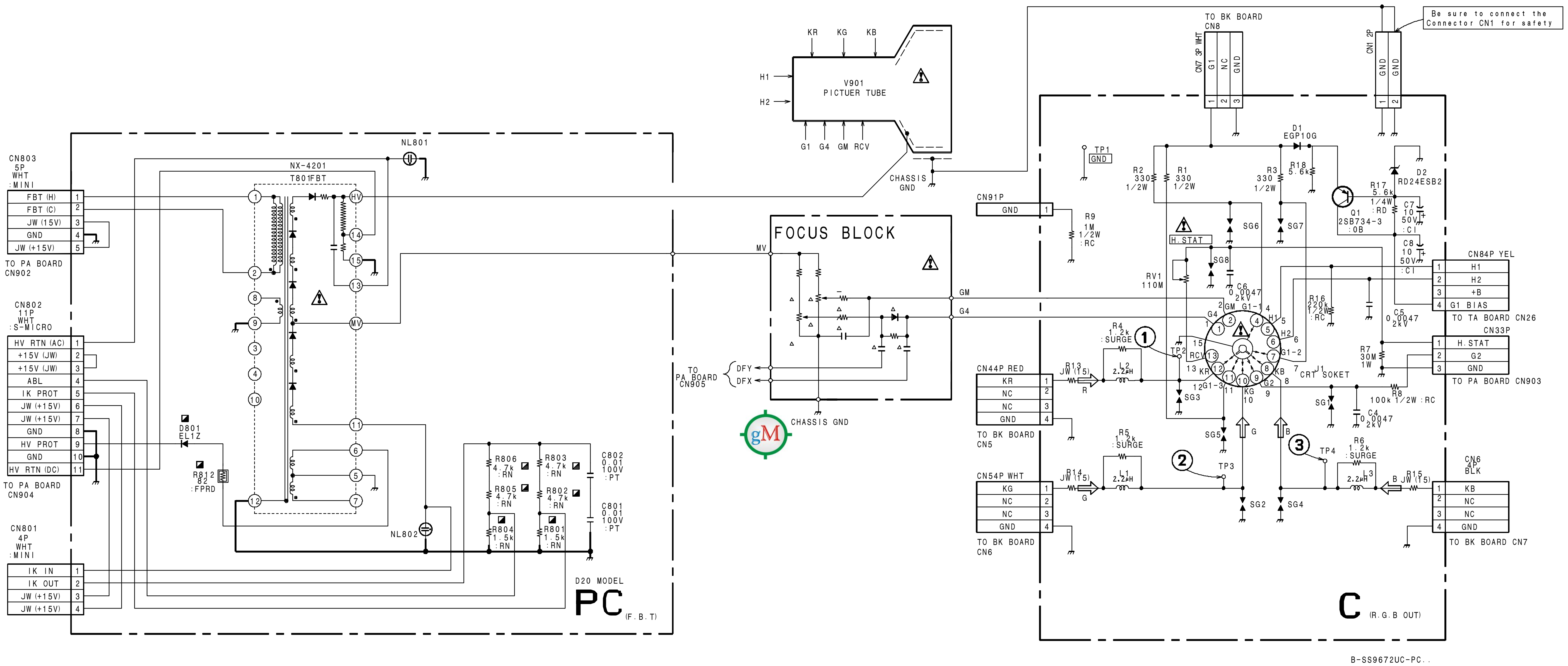
## TLC2932IPW (IC104)


LOGIC VDD 1
SELECT 2
VCO OUT 3
FIN-A 4
FIN-B 5
PFD OUT 6
LOGIC GND 7
1/2 DIVIDER
VCO
PFD
VCO VDD 14
R BIAS 13
VCO IN 12
VCO GND 11
VCO INHIBIT 10
PFD INHIBIT 9
NC 8

## X25040S (IC903)

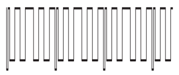
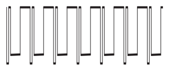
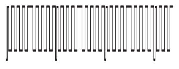

STATUS REGISTER
WRITE PROJECT LOGIC
X DECODE LOGIC
512 BYTE ARRAY
32
32X32
32
32X32
64
64X32
CS 1
SO 2
WP 3
VSS 4
COMMAND DECODE AND CONTROL LOGIC
WRITE CONTROL AND TIMING LOGIC
4
8
Y DECODE
DATA REGISTER
8 VCC
7 HOLD
6 SCK
5 SI

C, PC 20 inch model



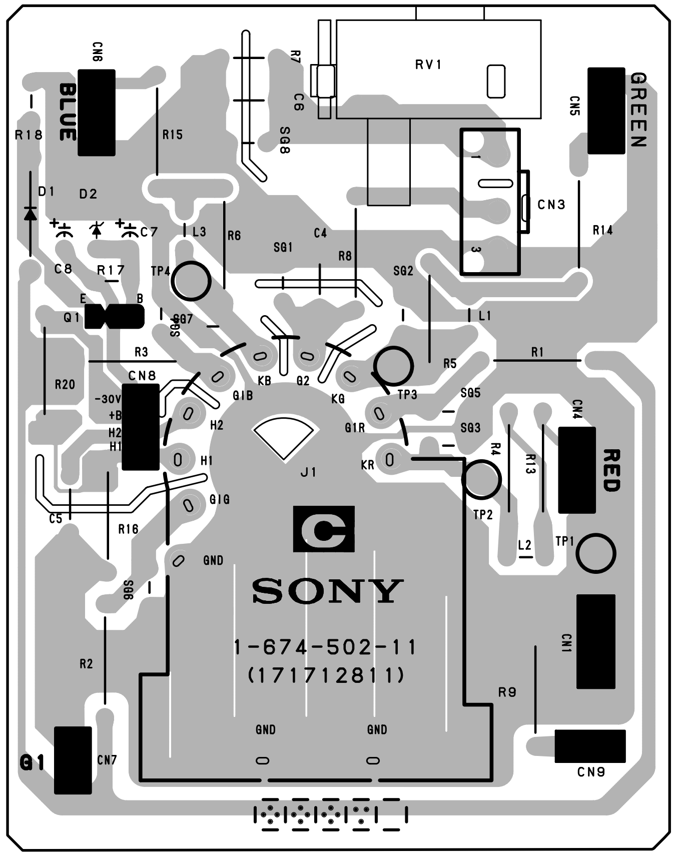
CN803 5P WHT :MINI
FBT (H)
FBT (C)
JW (15V)
GND
JW (+15V)
TO PA BOARD CN902
CN802 11P WHT :S-MICRO
HV RTN (AC)
+15V (JW)
+15V (JW)
ABL
IK PROT
JW (+15V)
JW (+15V)
GND
HV PROT
GND
HV RTN (DC)
TO PA BOARD CN904
CN801 4P WHT :MINI
IK IN
IK OUT
JW (+15V)
JW (+15V)
NL801
NX-4201
T801 FBT
D801 EL1Z
R812 82 :FPRD
NL802
R806 4.7k :RN
R803 4.7k :RN
R805 4.7k :RN
R802 4.7k :RN
R804 1.5k :RN
R801 1.5k :RN
C802 0.01 100V :PT
C801 0.01 100V :PT
D20 MODEL
PC (F.B.T)
V901 PICTUER TUBE
KR KG KB
H1 H2
G1 G4 GM RCV
CHASSIS GND
FOCUS BLOCK
MV
DFY
DFX
TO PA BOARD CN905
CHASSIS GND
GM
G4
TO BK BOARD CN8
CN7 3P WHT
G1 NC GND
CN1 2P
GND GND
Be sure to connect the Connector CN1 for safety
TP1 GND
CN91P
R9 1M 1/2W :RC
R2 330 1/2W
R1 330 1/2W
R3 330 1/2W
R18 5.6k
D1 EGP10G
D2 RD24ESB2
R17 5.6k 1/4W :RD
Q1 2SB734-3 :DB
C7 10 50V :CI
C8 10 50V :CI
H.STAT
SG6
SG7
SG8
RV1 110M
C6 0.0047 2kV
R16 220k 1/2W :RC
C5 0.0047 2kV
CN84P YEL
H1
H2
+B
G1 BIAS
TO TA BOARD CN26
CN33P
H.STAT
G2
GND
TO PA BOARD CN903
R4 1.2k :SURGE
TP2
CN44P RED
KR NC NC GND
TO BK BOARD CN5
R13 JW (15)
L2 2.2µH
R
R7 30M 1W
J1 CRT SOKET
R8 100k 1/2W :RC
SG1
SG3
C4 0.0047 2kV
SG5
R5 1.2k :SURGE
TP3
CN54P WHT
KG NC NC GND
TO BK BOARD CN6
R14 JW (15)
L1 2.2µH
G
SG2
SG4
R6 1.2k :SURGE
TP4
L3 2.2µH
R15 B JW (15)
CN6 4P BLK
KB NC NC GND
TO BK BOARD CN7
C (R.G.B OUT)
B-SS9672UC-PC..

## C BOARD WAVEFORMS (20 inch)

| | | |
|---|---|---|
| ① (D20)<br><br>37Vp-p (2H) | ② (D20)<br><br>35Vp-p (2H) | ③ (D20)<br><br>32Vp-p (2H) |

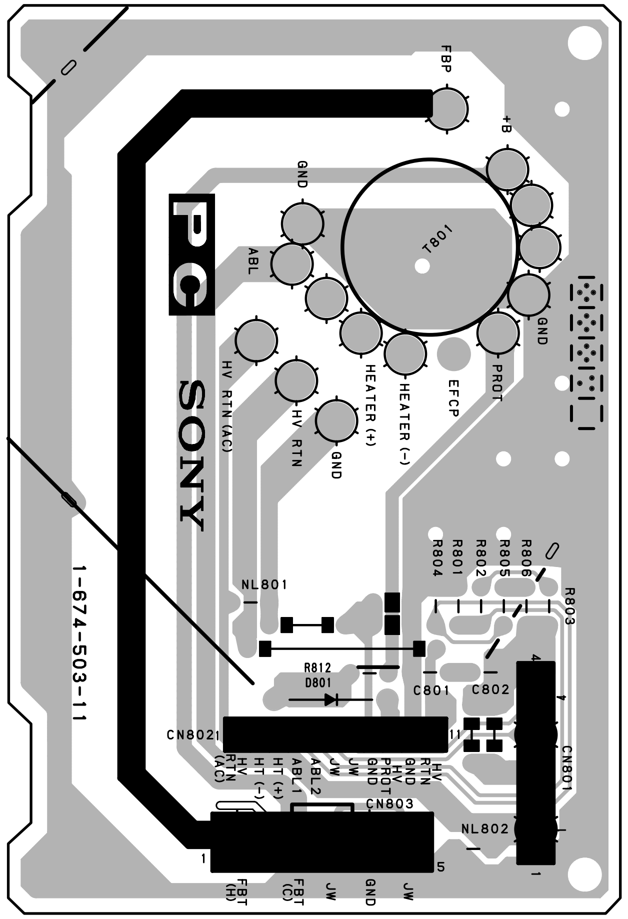
11-37

## C BOARD (20 inch model)

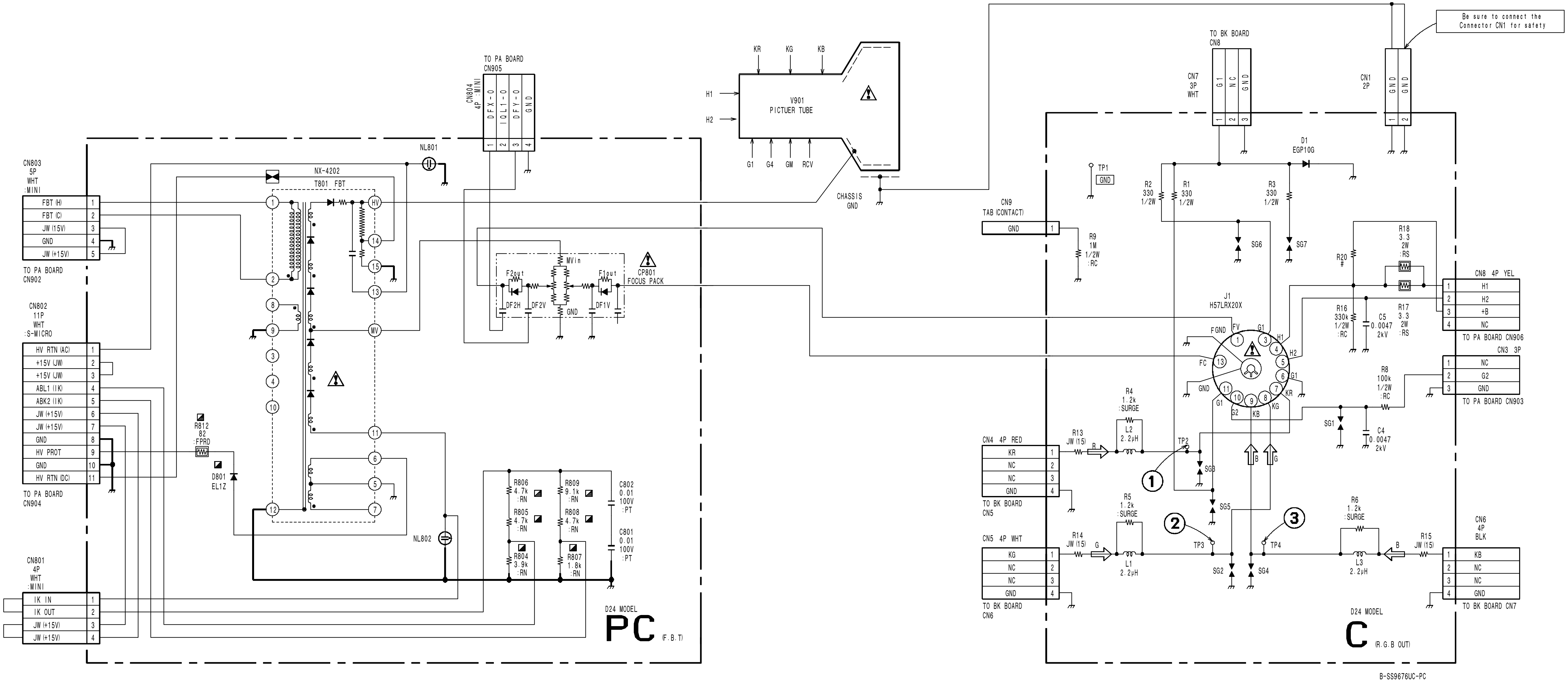

CN6
BLUE
R18
R15
D1
D2
C7
C8
R17
Q1
E
B
R3
CN8
R20
-30V
+B
H2
H1
C5
R16
SG6
R2
G1
CN7
RV1
R7
C6
SG8
CN5
GREEN
CN3
R14
L3
R6
SG1
C4
R8
SG2
L1
TP4
SG7
G1B
KB
G2
KG
TP3
R5
SG5
SG3
R1
CN4
RED
G1G
G1R
KR
J1
R4
R13
TP2
L2
TP1
GND
C
SONY
1-674-502-11
(171712811)
CN1
R9
GND
GND
CN9

20 inch model
**C –B SIDE–**
SUFFIX: -11

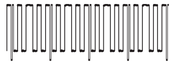
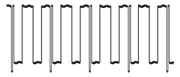
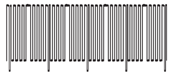
## PC BOARD (20 inch model)


FBP
+B
GND
T801
PC
ABL
GND
PROT
EFCP
HEATER (–)
HEATER (+)
HV RTN (AC)
HV RTN
GND
SONY
1-674-503-11
NL801
R804
R801
R802
R805
R806
R803
R812
D801
C801
C802
CN802
CN801
HV RTN (AC)
HT (–)
HT (+)
ABL 1
ABL 2
JW
JW
GND
PROT
HV
GND
HV RTN
CN803
NL802
FBT (H)
FBT (C)
JW
GND
JW

20 inch model
**PC –B SIDE–**
SUFFIX: -11

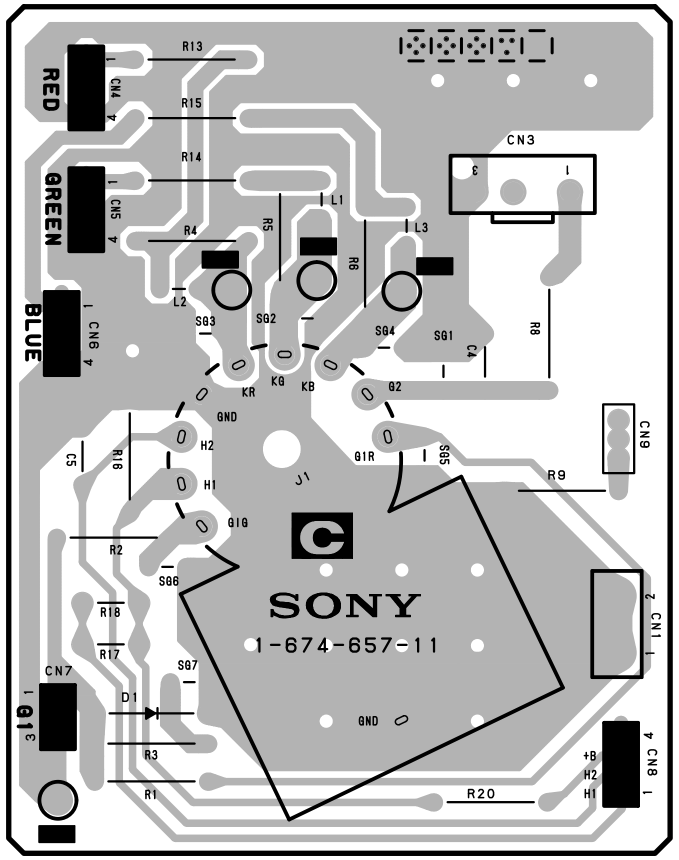

TO PA BOARD
CN905
CN804
4P :MINI
D F X - O
I Q L 1 - O
D F Y - O
G N D
NL801
CN803
5P
WHT
:MINI
FBT (H)
FBT (C)
JW (15V)
GND
JW (+15V)
TO PA BOARD
CN902
NX-4202
T801 FBT
HV
MV
CN802
11P
WHT
:S-MICRO
HV RTN (AC)
+15V (JW)
+15V (JW)
ABL1 (IK)
ABK2 (IK)
JW (+15V)
JW (+15V)
GND
HV PROT
GND
HV RTN (DC)
TO PA BOARD
CN904
R812
82
:FPRD
D801
EL1Z
NL802
CN801
4P
WHT
:MINI
IK IN
IK OUT
JW (+15V)
JW (+15V)
MVin
F2out
F1out
DF2H
DF2V
DF1V
GND
CP801
FOCUS PACK
R806
4.7k
:RN
R805
4.7k
:RN
R804
3.9k
:RN
R809
9.1k
:RN
R808
4.7k
:RN
R807
1.8k
:RN
C802
0.01
100V
:PT
C801
0.01
100V
:PT
D24 MODEL
PC (F.B.T)
KR
KG
KB
H1
H2
V901
PICTUER TUBE
G1
G4
GM
RCV
CHASSIS
GND
CN9
TAB (CONTACT)
GND
TP1
GND
R9
1M
1/2W
:RC
TO BK BOARD
CN8
CN7
3P
WHT
G1
NC
GND
CN1
2P
GND
GND
Be sure to connect the
Connector CN1 for safety
D1
EGP10G
R2
330
1/2W
R1
330
1/2W
R3
330
1/2W
SG6
SG7
R18
3.3
2W
:RS
R20
#
J1
H57LRX20X
FGND
FV
G1
H1
H2
FC
GND
G1
KR
G1
G2
KB
KG
R16
330k
1/2W
:RC
C5
0.0047
2kV
R17
3.3
2W
:RS
CN8 4P YEL
H1
H2
+B
NC
TO PA BOARD CN906
CN3 3P
NC
G2
GND
TO PA BOARD CN903
R8
100k
1/2W
:RC
SG1
C4
0.0047
2kV
R4
1.2k
:SURGE
L2
2.2μH
R13
JW (15)
R
TP2
SG3
CN4 4P RED
KR
NC
NC
GND
TO BK BOARD
CN5
①
②
③
R5
1.2k
:SURGE
L1
2.2μH
R14
JW (15)
G
TP3
SG5
SG2
SG4
TP4
B
G
R6
1.2k
:SURGE
L3
2.2μH
R15
JW (15)
B
CN5 4P WHT
KG
NC
NC
GND
TO BK BOARD
CN6
CN6
4P
BLK
KB
NC
NC
GND
TO BK BOARD CN7
D24 MODEL
C (R.G.B OUT)
B-SS9676UC-PC

## C BOARD WAVEFORMS (24 inch)

| ① (D24) | ② (D24) | ③ (D24) |
|---|---|---|
|  |  |  |
| 33.2Vp-p (2H) | 39.4Vp-p (22H) | 39.4Vp-p (2H) |

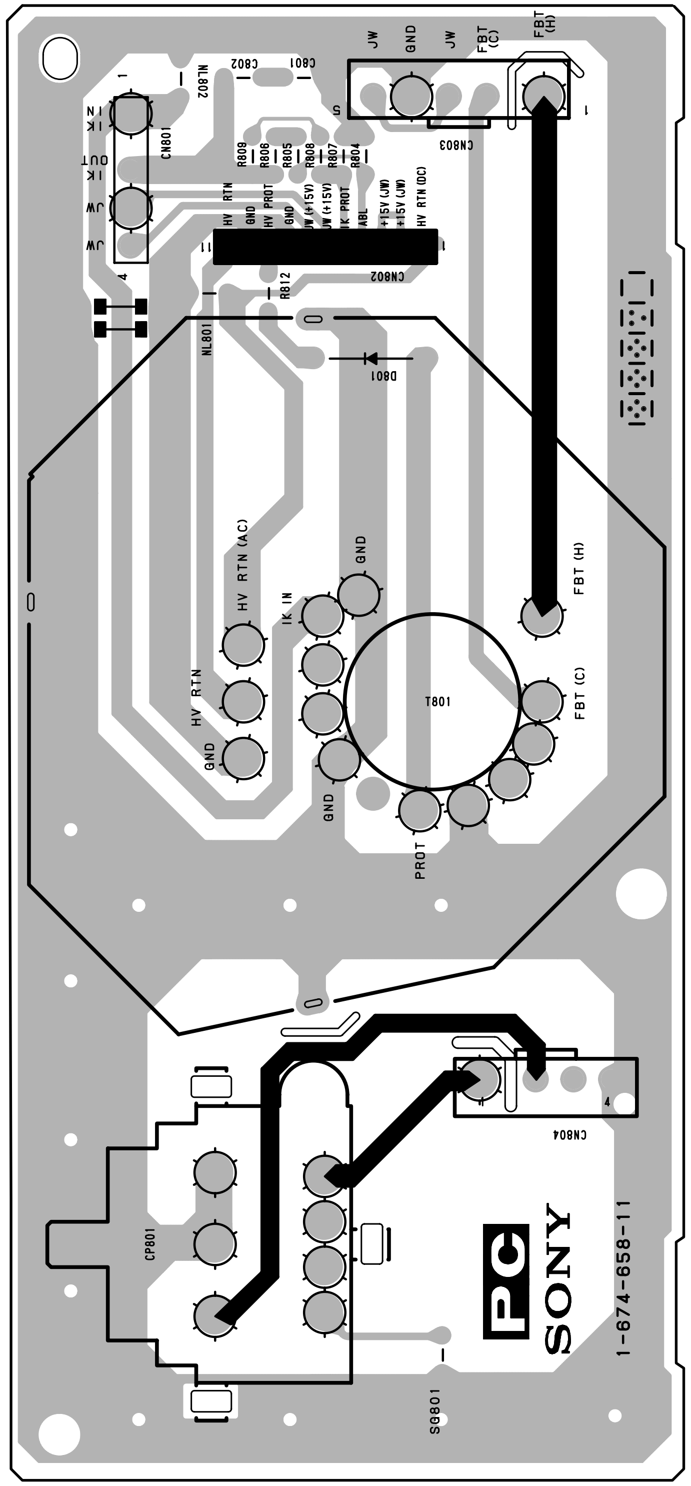
11-39

## C BOARD (24 inch model)

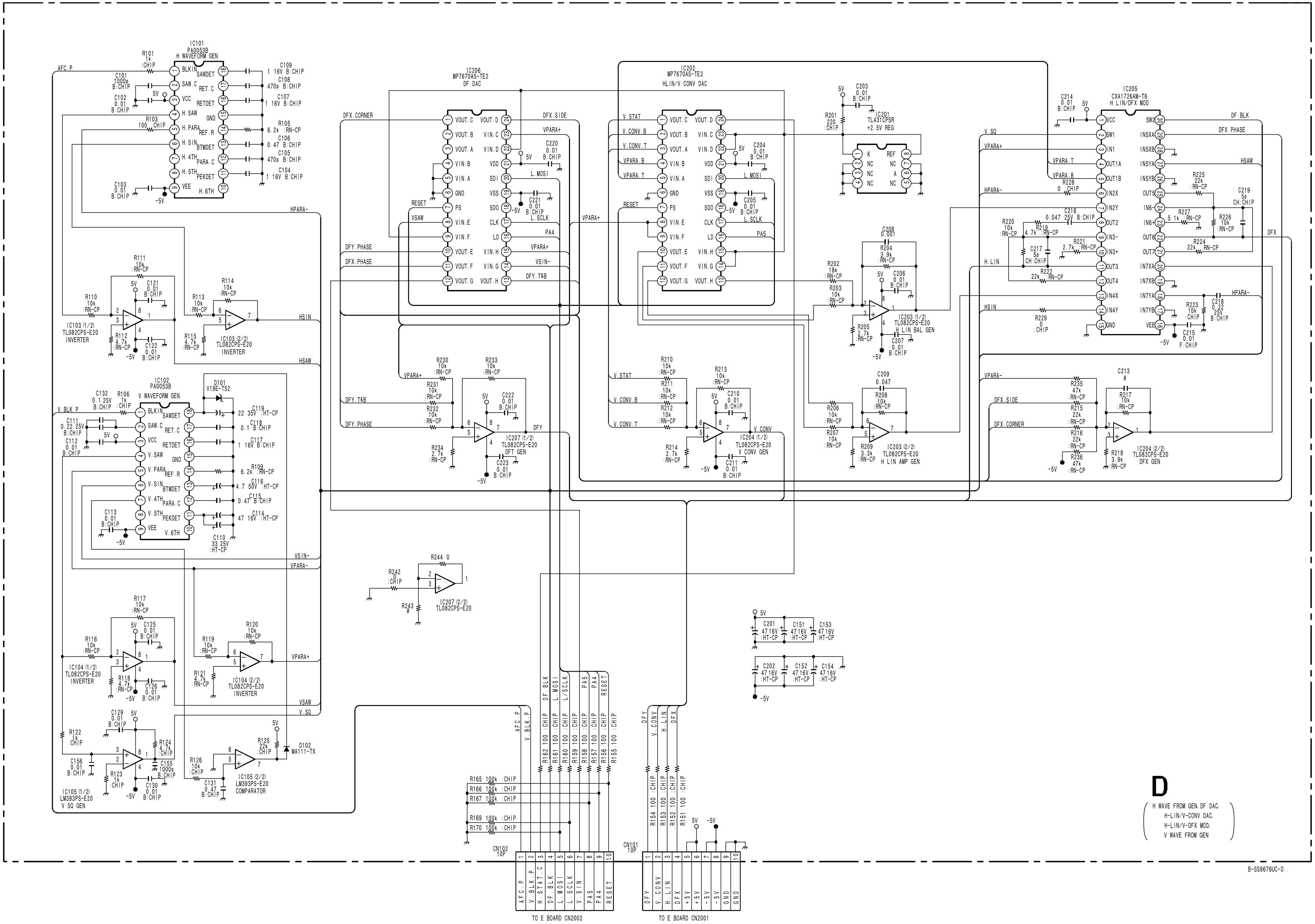

RED
GREEN
BLUE
CN4
CN5
CN6
CN3
CN7
CN8
CN9
CN1
R13
R15
R14
R4
R5
R6
R8
R9
R16
R2
R18
R17
R3
R1
R20
L1
L2
L3
SG1
SG2
SG3
SG4
SG5
SG6
SG7
C4
C5
D1
KR
KG
KB
G2
GND
H2
H1
G1R
G1G
J1
C
SONY
1-674-657-11
+B
Q1

24 inch model
**C –B SIDE–**
SUFFIX: -11

## PC BOARD (24 inch model)

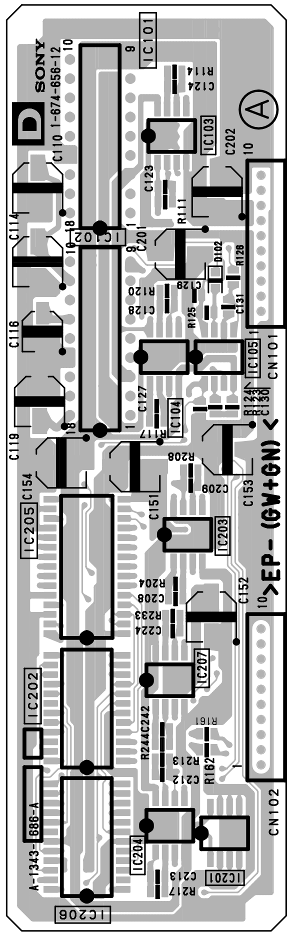

JW
GND
JW
FBT (C)
FBT (H)
C802
C801
NL802
CN801
IK IN
IK OUT
JW
JW
R809
R808
R805
R806
R807
R804
HV RTN
GND
HV PROT
GND
JW (+15V)
JW (+15V)
IK PROT
ABL
+15V (JW)
+15V (JW)
HV RTN (DC)
CN803
CN802
R812
NL801
D801
HV RTN (AC)
GND
IK IN
HV RTN
GND
GND
PROT
T801
FBT (H)
FBT (C)
CN804
CP801
SG801
PC
SONY
1-674-658-11

24 inch model
**PC –B SIDE–**
SUFFIX: -11

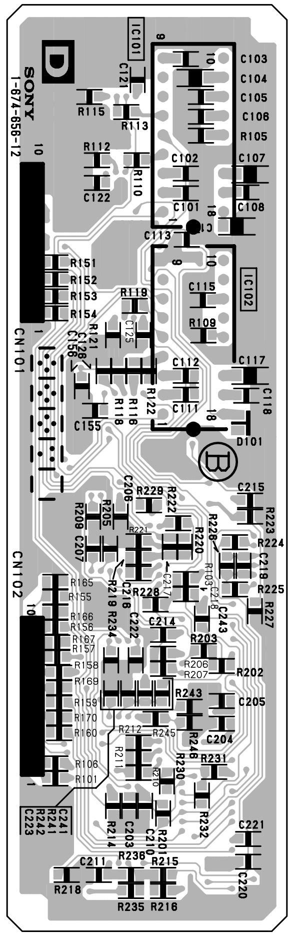

IC101
PA0053B
H WAVEFORM GEN
IC102
PA0053B
V WAVEFORM GEN
IC103 (1/2)
TL082CPS-E20
INVERTER
IC103 (2/2)
TL082CPS-E20
INVERTER
IC104 (1/2)
TL082CPS-E20
INVERTER
IC104 (2/2)
TL082CPS-E20
INVERTER
IC105 (1/2)
LM393PS-E20
V SQ GEN
IC105 (2/2)
LM393PS-E20
COMPARATOR
IC206
MP7670AS-TE2
DF DAC
IC202
MP7670AS-TE2
HLIN/V CONV DAC
IC201
TL431CPSR
+2.5V REG
IC205
CXA1726AM-T6
H LIN/DFX MOD
IC207 (1/2)
TL082CPS-E20
DFT GEN
IC207 (2/2)
TL082CPS-E20
IC204 (1/2)
TL082CPS-E20
V CONV GEN
IC204 (2/2)
TL082CPS-E20
DFX GEN
IC203 (1/2)
TL082CPS-E20
H LIN BAL GEN
IC203 (2/2)
TL082CPS-E20
H LIN AMP GEN
D101
V19E-T52
D102
MA111-TX
CN102
10P
TO E BOARD CN2002
CN101
10P
TO E BOARD CN2001
AFC.P
V.BLK.P
H.STAT.C
DF.BLK
L.MOSI
L.SCLK
V.SIN
PA5
PA4
RESET
DFY
V.CONV
H.LIN
DFX
+5V
-5V
GND
D
H WAVE FROM GEN DF DAC.
H-LIN/V-CONV DAC.
H-LIN/V-DFX MOD.
V WAVE FROM GEN
B-SS9676UC-D..

http://getMANUAL.com

## D BOARD

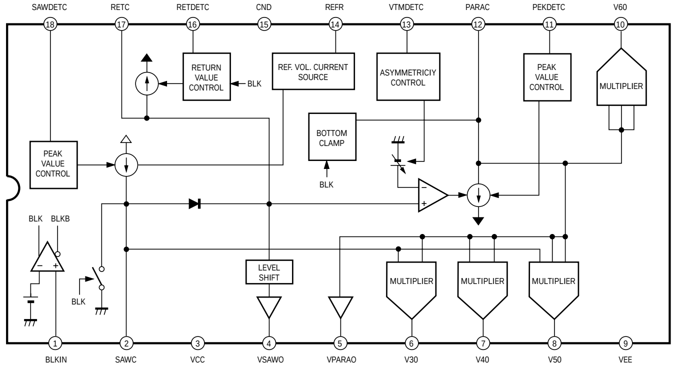

D
SONY
1-674-658-12
IC101
IC102
IC103
IC104
IC105
IC201
IC202
IC203
IC204
IC205
IC206
IC207
CN101
CN102
A-1343-889-A
EP- (GV+GN)
A

**D –A SIDE–**
SUFFIX: -12

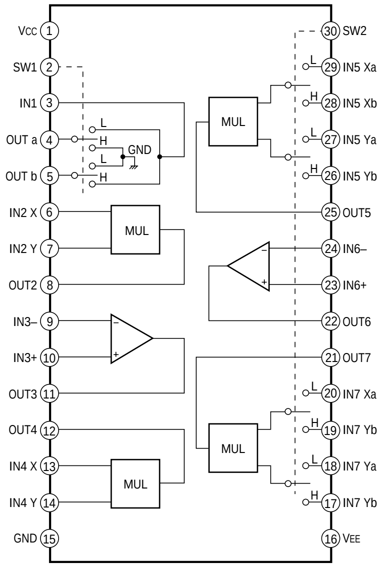

D
SONY
1-674-658-12
IC101
IC102
CN101
CN102
D101
B

**D –B SIDE–**
SUFFIX: -12

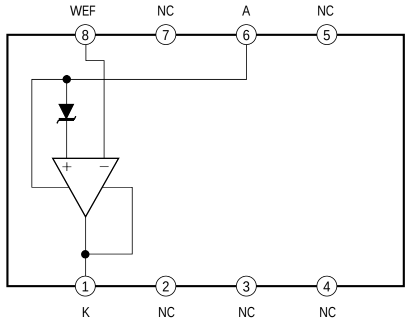
## PA0053B (IC101, 102)


SAWDETC
RETC
RETDETC
CND
REFR
VTMDETC
PARAC
PEKDETC
V60
18
17
16
15
14
13
12
11
10
RETURN VALUE CONTROL
BLK
REF. VOL. CURRENT SOURCE
ASYMMETRICIY CONTROL
PEAK VALUE CONTROL
MULTIPLIER
BOTTOM CLAMP
BLK
PEAK VALUE CONTROL
BLK
BLKB
BLK
LEVEL SHIFT
MULTIPLIER
MULTIPLIER
MULTIPLIER
1
2
3
4
5
6
7
8
9
BLKIN
SAWC
VCC
VSAWO
VPARAO
V30
V40
V50
VEE

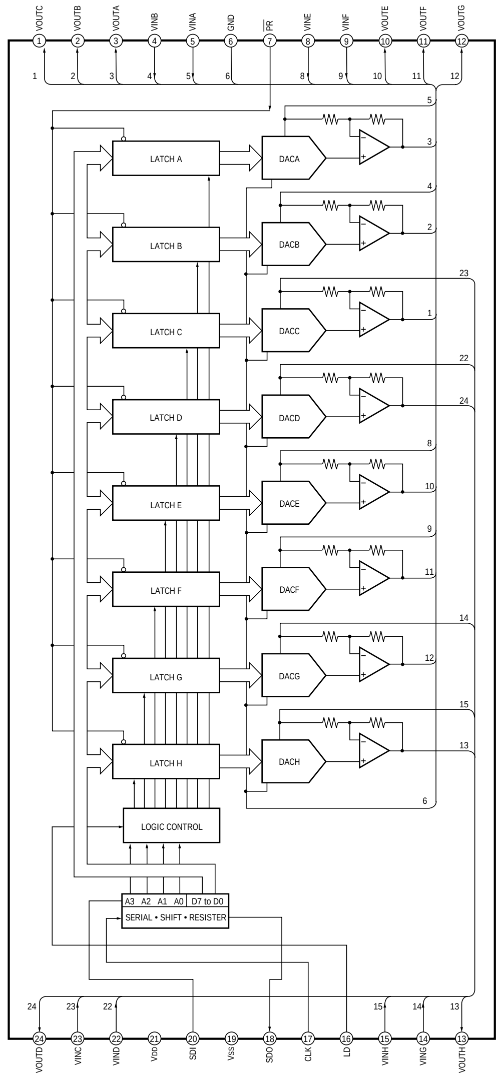
## CXA1726AM-T6 (IC205)

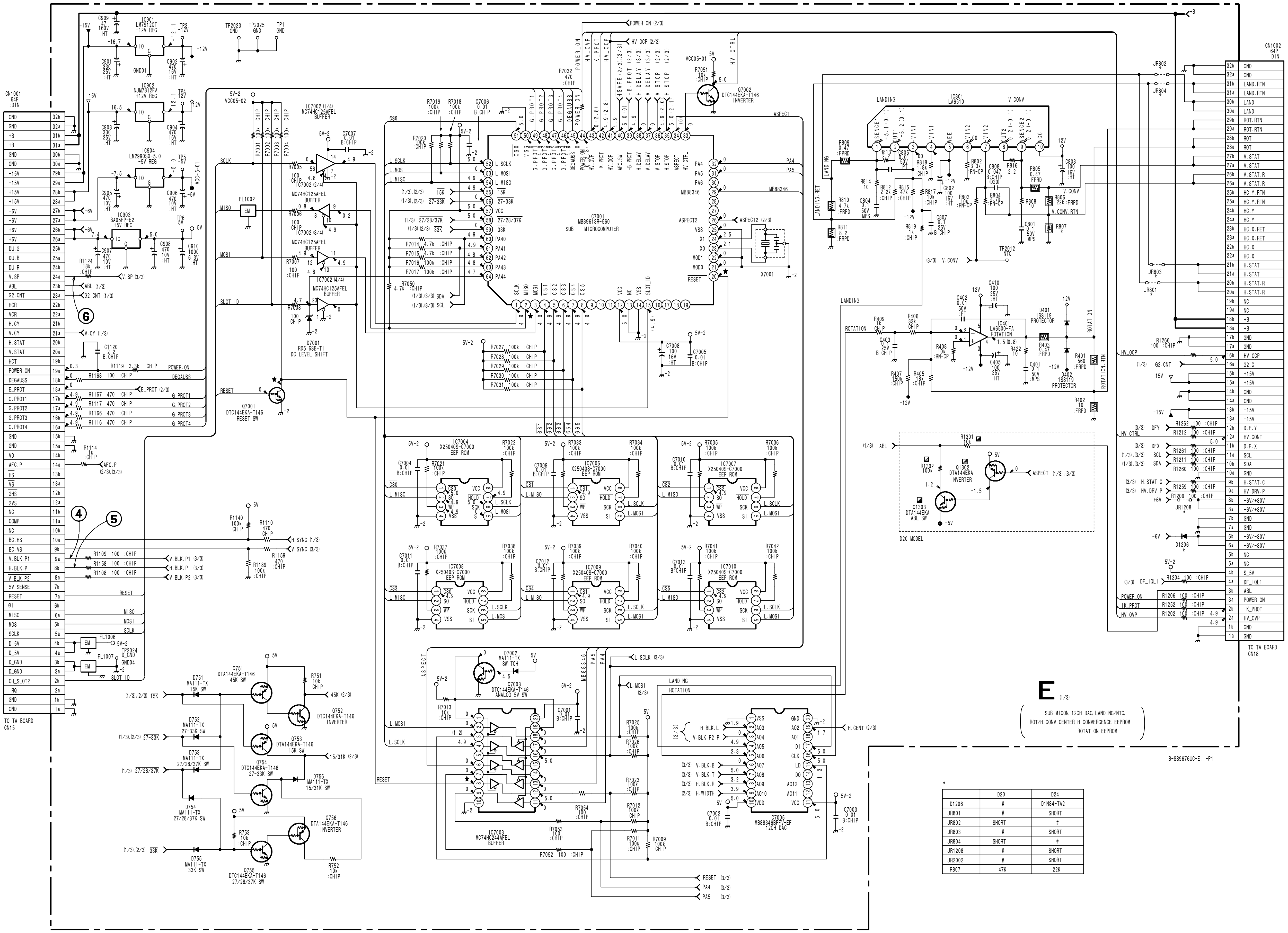

Vcc 1
SW1 2
IN1 3
OUT a 4
OUT b 5
IN2 X 6
IN2 Y 7
OUT2 8
IN3– 9
IN3+ 10
OUT3 11
OUT4 12
IN4 X 13
IN4 Y 14
GND 15
30 SW2
29 IN5 Xa
28 IN5 Xb
27 IN5 Ya
26 IN5 Yb
25 OUT5
24 IN6–
23 IN6+
22 OUT6
21 OUT7
20 IN7 Xa
19 IN7 Yb
18 IN7 Ya
17 IN7 Yb
16 VEE
L
H
GND
MUL
MUL
MUL
MUL

## TL431CPSR (IC201)


WEF
NC
A
NC
8
7
6
5
1
2
3
4
K
NC
NC
NC

## MP7670AS-TE2 (IC202, 206)


VOUTC
VOUTB
VOUTA
VINB
VINA
GND
PR
VINE
VINF
VOUTE
VOUTF
VOUTG
LATCH A
LATCH B
LATCH C
LATCH D
LATCH E
LATCH F
LATCH G
LATCH H
DACA
DACB
DACC
DACD
DACE
DACF
DACG
DACH
LOGIC CONTROL
A3 A2 A1 A0 D7 to D0
SERIAL • SHIFT • RESISTER
VOUTD
VINC
VIND
VDD
SDI
VSS
SDO
CLK
LD
VINH
VING
VOUTH


CN1001 64P :DIN
TO TA BOARD CN15
CN1002 64P :DIN
TO TA BOARD CN18
IC901 LM7912CT -12V REG
IC902 NJM7812FA +12V REG
IC904 LM2990SX-5.0 -5V REG
IC903 BA05FP-E2 +5V REG
IC7001 MB89613R-560 SUB MICROCOMPUTER
IC7002 MC74HC125AFEL BUFFER
D7001 RD5.6SB-T1 DC LEVEL SHIFT
Q7001 DTC144EKA-T146 RESET SW
Q7002 DTC144EKA-T146 INVERTER
IC801 LA6510
IC401 LA6500-FA ROTATION
D401 1SS119 PROTECTOR
D402 1SS119 PROTECTOR
IC7004 X25040S-C7000 EEP ROM
IC7006 X25040S-C7000 EEP ROM
IC7007 X25040S-C7000 EEP ROM
IC7008 X25040S-C7000 EEP ROM
IC7009 X25040S-C7000 EEP ROM
IC7010 X25040S-C7000 EEP ROM
D7002 MA111-TX SWITCH
Q7003 DTC144EKA-T146 ANALOG 5V SW
IC7003 MC74HC244AFEL BUFFER
IC7005 MB88346BPFV-EF 12CH DAC
Q751 DTA144EKA-T146 45K SW
Q752 DTC144EKA-T146 INVERTER
Q753 DTA144EKA-T146 15K SW
Q754 DTC144EKA-T146 27-33K SW
Q755 DTC144EKA-T146 27/28/37K SW
Q756 DTA144EKA-T146 INVERTER
Q1302 DTA144EKA INVERTER
Q1303 DTA144EKA ABL SW
D20 MODEL
E (1/3)
SUB MICON, 12CH DAC, LANDING/NTC, ROT/H.CONV CENTER, H CONVERGENCE, EEPROM ROTATION, EEPROM
B-SS9676UC-E..-P1
④
⑤
⑥

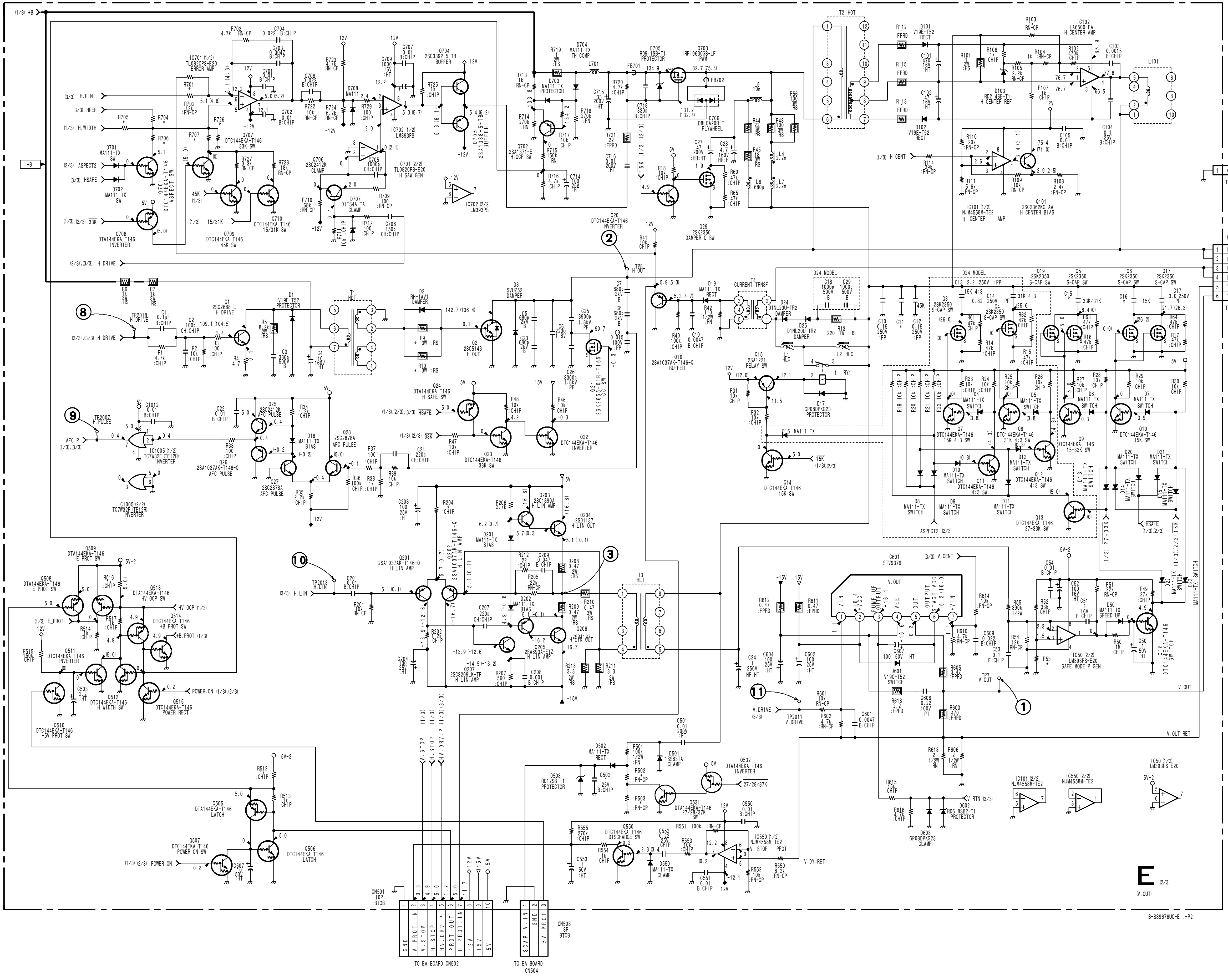
*

| | D20 | D24 |
|---|---|---|
| D1206 | # | D1NS4-TA2 |
| JR801 | # | SHORT |
| JR802 | SHORT | # |
| JR803 | # | SHORT |
| JR804 | SHORT | # |
| JR1208 | # | SHORT |
| JR2002 | # | SHORT |
| R807 | 47K | 22K |

E (2/3)

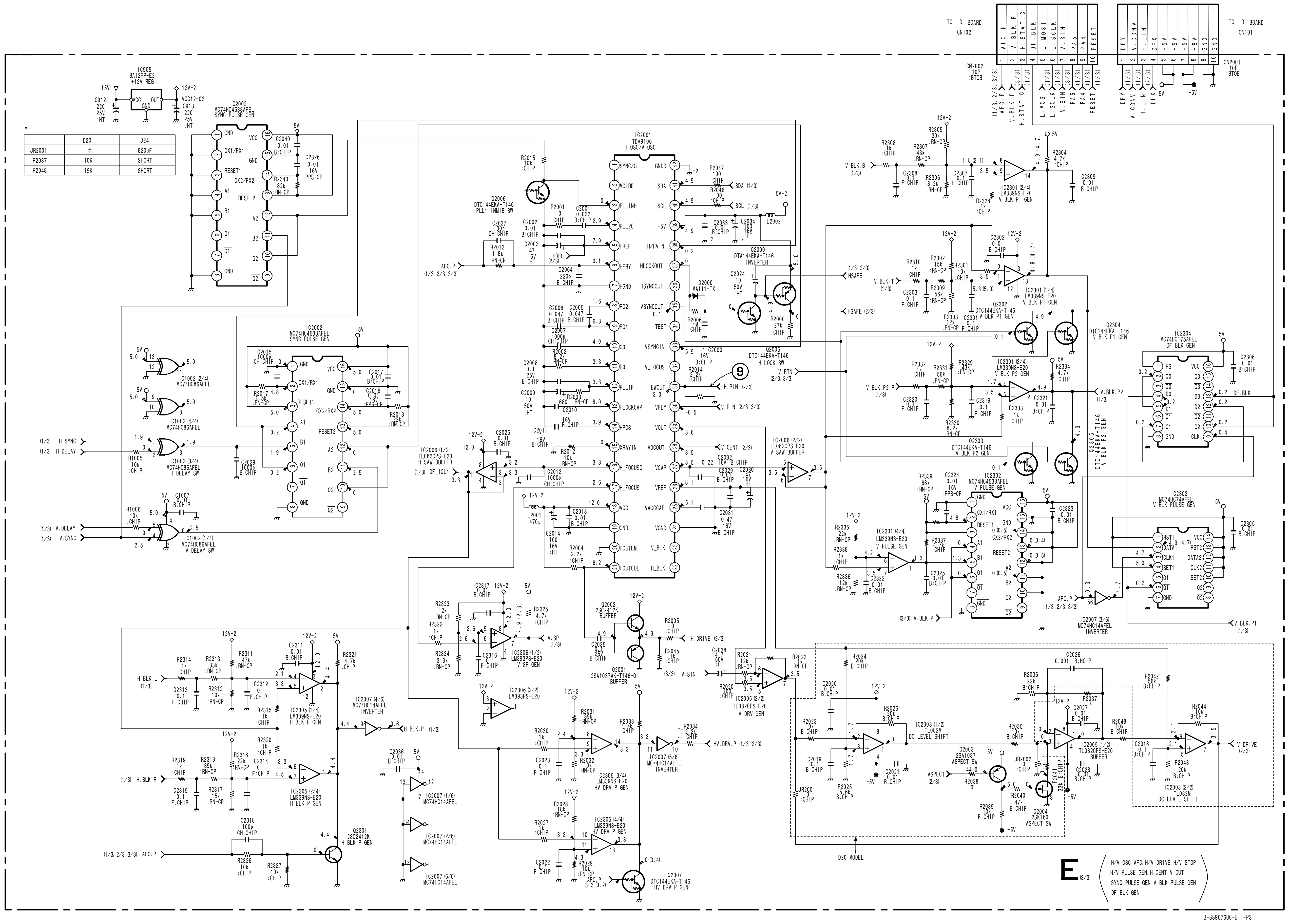
*

| | D20 | D24 |
|---|---|---|
| C6 | 2700uF | 2200uF |
| C11 | 0.27uF | 0.15uF |
| C15 | 0.82uF | 0.47uF |
| C16 | 3uF | 0.68uF |
| CN2 | # | 1P:TAB |
| R9 | 0.33 | 0.47 |
| R10 | 0.33 | 0.47 |
| R53 | 15K | 12K |
| R204 | 3.3K | 2.7K |
| R502 | 10K | 7.5K |
| R503 | 6.8K | 3.3K |
| R701 | 4.7K | 3K |
| R704 | 3.9K | 10K |
| R705 | 10K | 22K |
| R706 | 15K | 47K |
| R707 | 15K | 47K |
| R726 | 18K | 33K |



IC701 (1/2) TL082CPS-E20 ERROR AMP
IC702 (1/2) LM393PS
IC701 (2/2) TL082CPS-E20 H SAW GEN
IC702 (2/2) LM393PS
Q704 2SC3392-5-TB BUFFER
Q705 2SA1335-5-TB BUFFER
Q703 IRF19630GS-LF PWM
T2 HOT
IC102 LA6500-FA H CENTER AMP
L101
IC101 (1/2) NJM4558M-TE2 H CENTER AMP
Q101 2SC2362KG-AA H CENTER BIAS
CN2 GND TO DY BOARD
CN1 6P WHT:DY
H.DY
H.DY
H.DY.RET
H.DY.RET
V.DY.RET
V.DY
TO DY BOARD
Q1 2SC2688-L H DRIVE
T1 HDT
D2 RH-1AV1 DAMPER
Q2 2SC5143 H OUT
Q29 2SK2350 DAMPER C SW
T4 CURRENT TRNSF
D24 MODEL
Q3 2SK2350 S-CAP SW
Q4 2SK2350 S-CAP SW
Q19 2SK2350 S-CAP SW
Q5 2SK2350 S-CAP SW
Q6 2SK2350 S-CAP SW
Q17 2SK2350 S-CAP SW
Q15 2SA1221 RELAY SW
RY1
Q14 DTC144EKA-T146 15K SW
IC1005 (1/2) TC7W32F (TE12R) INVERTER
IC1005 (2/2) TC7W32F (TE12R) INVERTER
Q25 2SC2412K AFC PULSE
Q26 2SA1037AK-T146-Q AFC PULSE
Q27 2SC2878A AFC PULSE
Q28 2SC2878A AFC PULSE
Q201 2SA1037AK-T146-Q H LIN AMP
Q203 2SC1890A H LIN AMP
Q204 2SD1137 H LIN OUT
Q205 2SA893A-E7Z H LIN AMP
Q206 2SD1137 H LIN OUT
Q207 2SC3209LK-TP H LIN AMP
T3 HLT
IC601 STV9379
IC50 (2/2) LM393PS-E20 SAFE MODE P GEN
Q18 DTC144EKA-T146 SPEED UP SW
Q509 DTA144EKA-T146 E PROT SW
Q508 DTA144EKA-T146 E PROT SW
Q513 DTA144EKA-T146 HV OCP SW
Q514 DTC144EKA-T146 +B PROT SW
Q511 DTC144EKA-T146 INVERTER
Q512 DTC144EKA-T146 H WIDTH SW
Q515 DTC144EKA-T146 POWER RECT
Q510 DTC144EKA-T146 +5V PROT SW
Q505 DTA144EKA-T146 LATCH
Q506 DTC144EKA-T146 LATCH
Q507 DTC144EKA-T146 POWER ON SW
Q532 DTC144EKA-T146 INVERTER
Q531 DTA144EKA-T146 27/28/37K SW
Q550 DTC144EKA-T146 DISCHARGE SW
IC550 (1/2) NJM4558M-TE2 V STOP PROT
IC101 (2/2) NJM4558M-TE2
IC550 (2/2) NJM4558M-TE2
IC50 (1/2) LM393PS-E20
CN501 10P BTOB
GND
V.PROT IN
V.STOP
H.STOP
HV.DRV.P
PROT OUT
H.PROT IN
12V
15V
5V
TO EA BOARD CN502
CN503 3P BTOB
SCAP.V.IN
GND
5V.PROT
TO EA BOARD CN504
V.OUT
V.OUT.RET
V.RTN (3/3)
V.DY.RET
E (2/3)
(V.OUT)
B-SS9676UC-E..-P2

11-44


TO D BOARD CN102
TO D BOARD CN101
CN2002 10P :BTOB
CN2001 10P :BTOB
AFC.P
V.BLK.P
H.STAT.C
DF.BLK
L.MOSI
L.SCLK
V.SIN
PA5
PA4
RESET
DFY
V.CONV
H.LIN
DFX
+5V
-5V
GND
IC905 BA12FP-E2 +12V REG
IC2002 MC74HC4538AFEL SYNC PULSE GEN
IC2001 TA9106 H OSC/V OSC
IC1002 MC74HC86AFEL
IC1002 (3/4) MC74HC86AFEL H DELAY SW
IC1002 (1/4) MC74HC86AFEL V DELAY SW
IC2006 (1/2) TL082CPS-E20 H SAW BUFFER
IC2006 (2/2) TL082CPS-E20 V SAW BUFFER
Q2006 DTC144EKA-T146 PLL1 INMIB SW
Q2000 DTA144EKA-T146 INVERTER
Q2005 DTC144EKA-T146 H LOCK SW
IC2301 (2/4) LM339NS-E20 V BLK P1 GEN
IC2301 (1/4) LM339NS-E20 V BLK P1 GEN
IC2301 (3/4) LM339NS-E20 V BLK P2 GEN
IC2301 (4/4) LM339NS-E20 V PULSE GEN
Q2302 DTC144EKA-T146 V BLK P1 GEN
Q2304 DTC144EKA-T146 V BLK P1 GEN
Q2303 DTC144EKA-T146 V BLK P2 GEN
Q2305 DTC144EKA-T146 V BLK P2 GEN
IC2304 MC74HC175AFEL DF BLK GEN
IC2302 MC74HC4538AFEL V PULSE GEN
IC2303 MC74HC74AFEL V BLK PULSE GEN
IC2007 (3/6) MC74HC14AFEL INVERTER
IC2306 (1/2) LM393PS-E20 V SP GEN
IC2306 (2/2) LM393PS-E20
Q2002 2SC2412K BUFFER
Q2001 2SA1037AK-T146-Q BUFFER
IC2005 (2/2) TL082CPS-E20 V DRV GEN
IC2305 (1/4) LM339NS-E20 H BLK P GEN
IC2305 (2/4) LM339NS-E20 H BLK P GEN
IC2305 (3/4) LM339NS-E20 HV DRV P GEN
IC2305 (4/4) LM339NS-E20 HV DRV P GEN
IC2007 (4/6) MC74HC14AFEL INVERTER
IC2007 (5/6) MC74HC14AFEL INVERTER
IC2007 (1/6) MC74HC14AFEL
IC2007 (2/6) MC74HC14AFEL
IC2007 (6/6) MC74HC14AFEL
Q2301 2SC2412K H BLK P GEN
Q2007 DTC144EKA-T146 HV DRV P GEN
IC2003 (1/2) TL082M DC LEVEL SHIFT
IC2003 (2/2) TL082M DC LEVEL SHIFT
IC2005 (1/2) TL082CPS-E20 BUFFER
Q2003 2SA1037 ASPECT SW
Q2004 2SK160 ASPECT SW
D20 MODEL
H.SYNC
H.DELAY
V.DELAY
V.SYNC
H.BLK.L
H.BLK.R
AFC.P
H.DRIVE (2/3)
HV.DRV.P (1/3,2/3)
V.DRIVE (2/3)
V.SP (1/3)
H.BLK.P (1/3)
V.BLK.P2 (1/3)
V.BLK.P1 (1/3)
HSAFE (2/3)
V.RTN (2/3,3/3)
ASPECT (2/3)
E (3/3)
H/V OSC, AFC, H/V DRIVE, H/V STOP
H/V PULSE GEN, H CENT, V OUT
SYNC PULSE GEN, V BLK PULSE GEN
DF BLK GEN
B-SS9676UC-E..-P3

*

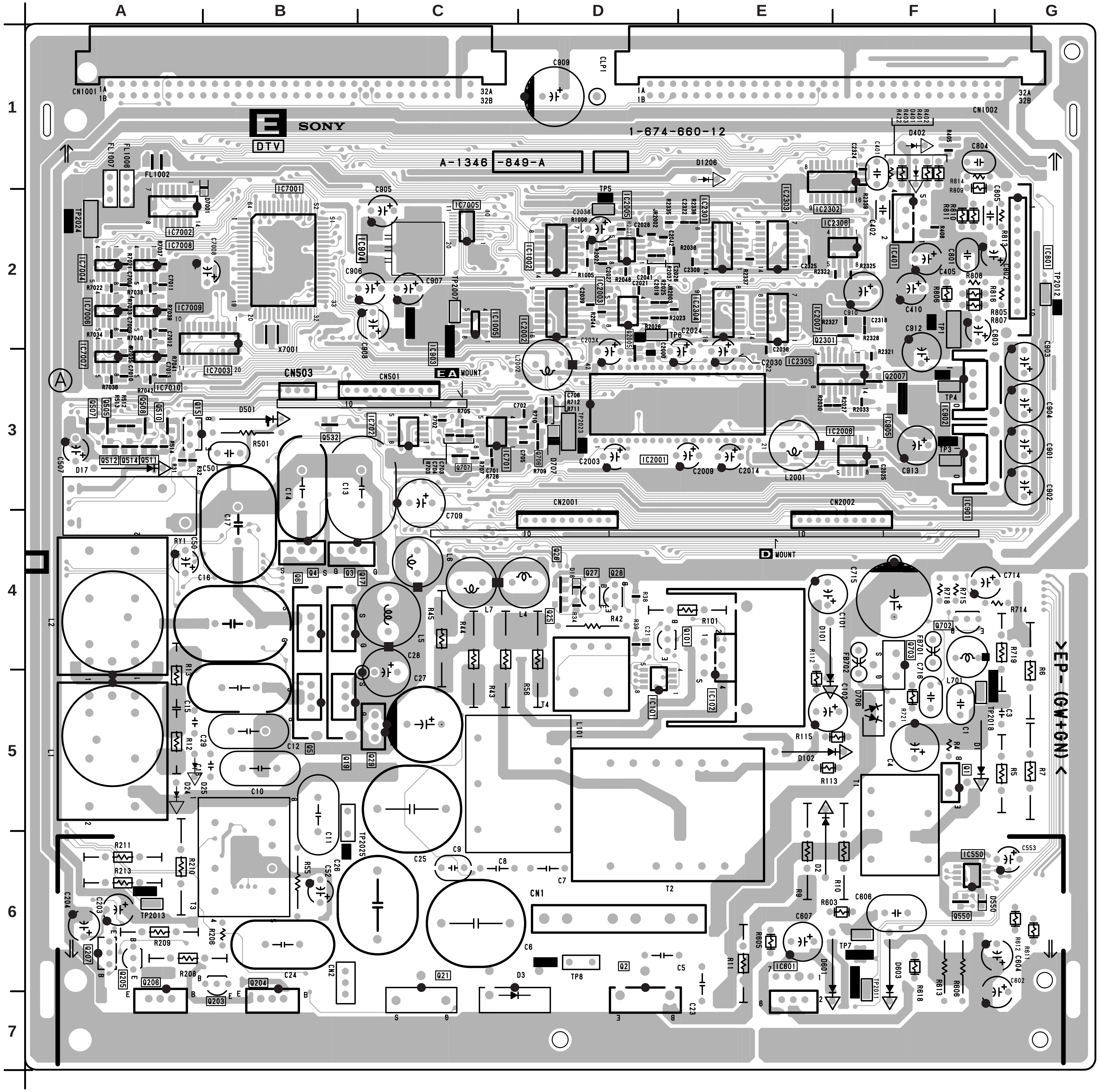
| | D20 | D24 |
|---|---|---|
| JR2001 | # | 820uF |
| R2037 | 10K | SHORT |
| R2048 | 15K | SHORT |

## E BOARD

*: B SIDE

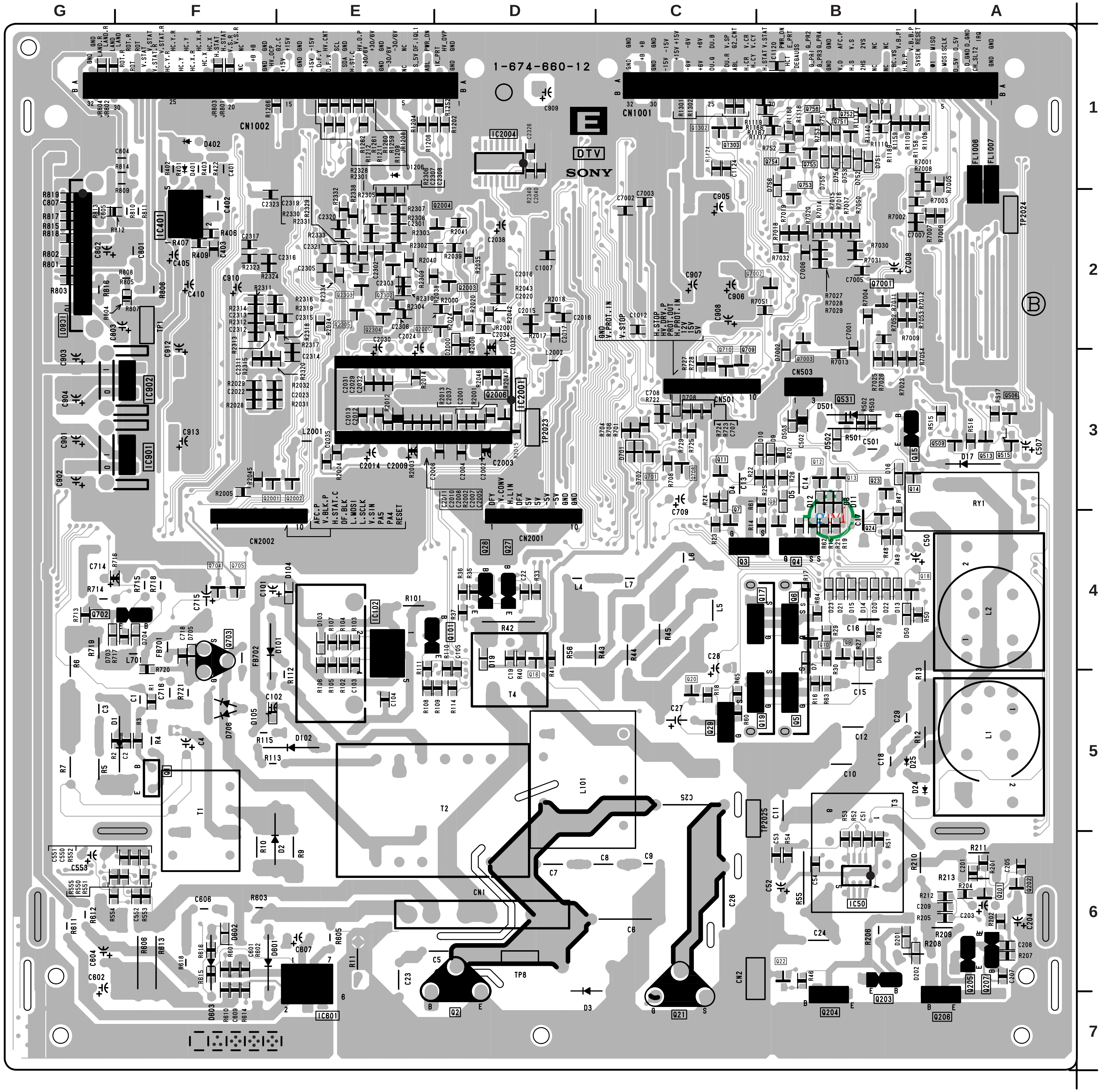
| | |
|---|---|
| D1 | G-5 |
| D2 | F-5 |
| D3 | D-6 |
| D4 | * C-3 |
| D5 | * B-3 |
| D6 | * B-4 |
| D7 | * B-4 |
| D8 | * B-3 |
| D9 | * B-3 |
| D10 | * B-3 |
| D11 | * B-3 |
| D12 | * B-3 |
| D13 | * B-4 |
| D14 | * B-4 |
| D15 | * B-5 |
| D16 | B-3 |
| D17 | A-3 |
| D18 | D-4 |
| D19 | * D-4 |
| D20 | * B-4 |
| D21 | * B-4 |
| D22 | * B-4 |
| D23 | * B-4 |
| D24 | B-5 |
| D50 | * A-4 |
| D101 | F-4 |
| D102 | F-5 |
| D103 | * E-4 |
| D201 | * B-6 |
| D202 | * B-6 |
| D401 | F-1 |
| D402 | F-1 |
| D501 | B-3 |
| D502 | B-3 |
| D503 | * B-3 |
| D550 | G-6 |
| D601 | F-6 |
| D602 | * F-6 |
| D603 | F-6 |
| D701 | * C-3 |
| D702 | * C-3 |
| D703 | * F-4 |
| D704 | * F-4 |
| D705 | * F-4 |
| D706 | F-5 |
| D707 | D-3 |
| D751 | * B-1 |
| D752 | * B-1 |
| D753 | * B-1 |
| D754 | * B-1 |
| D755 | * B-1 |
| D756 | * B-1 |
| D1206 | E-1 |
| D2000 | * D-3 |
| D7001 | B-1 |
| D7002 | * B-2 |
| IC50 | * B-6 |
| IC101 | D-4 |
| IC102 | E-4 |
| IC401 | F-2 |
| IC550 | F-6 |
| IC601 | E-6 |
| IC701 | D-3 |
| IC702 | C-3 |
| IC801 | G-2 |
| IC901 | F-3 |
| IC902 | F-3 |
| IC903 | C-2 |
| IC904 | C-2 |
| IC905 | F-3 |
| IC1002 | D-2 |
| IC1005 | C-2 |
| IC2001 | D-3 |
| IC2002 | D-2 |
| IC2005 | D-2 |
| IC2006 | F-3 |
| IC2007 | E-2 |
| IC2301 | E-2 |
| IC2302 | F-1 |
| IC2303 | E-2 |
| IC2304 | E-2 |
| IC2305 | F-3 |
| IC2306 | F-2 |
| IC7001 | B-2 |
| IC7002 | A-2 |
| IC7003 | B-2 |
| IC7004 | A-2 |
| IC7005 | C-2 |
| IC7006 | A-2 |
| IC7007 | A-3 |
| IC7008 | A-2 |
| IC7009 | A-2 |
| IC7010 | A-3 |
| Q1 | F-5 |
| Q2 | D-6 |
| Q3 | C-4 |
| Q4 | B-4 |
| Q5 | B-5 |
| Q6 | B-4 |
| Q7 | * C-4 |
| Q8 | * B-4 |
| Q9 | * B-4 |
| Q10 | * B-4 |
| Q11 | * C-3 |
| Q12 | * B-3 |
| Q13 | * B-3 |
| Q14 | B-3 |
| Q15 | A-3 |
| Q16 | * D-4 |
| Q17 | C-4 |
| Q18 | * B-4 |
| Q19 | C-5 |
| Q20 | * C-5 |
| Q21 | C-6 |
| Q22 | B-6 |
| Q23 | * B-3 |
| Q24 | * B-4 |
| Q25 | D-4 |
| Q26 | D-4 |
| Q27 | D-4 |
| Q28 | D-4 |
| Q29 | C-5 |
| Q101 | E-4 |
| Q201 | * A-6 |
| Q202 | * A-6 |
| Q203 | B-6 |
| Q204 | B-7 |
| Q205 | B-6 |
| Q206 | A-7 |
| Q207 | A-6 |
| Q505 | A-3 |
| Q506 | * A-3 |
| Q507 | A-3 |
| Q508 | A-3 |
| Q509 | * A-3 |
| Q510 | A-3 |
| Q511 | A-3 |
| Q512 | A-3 |
| Q513 | * A-3 |
| Q514 | A-3 |
| Q515 | * A-3 |
| Q550 | F-6 |
| Q701 | * C-3 |
| Q702 | F-4 |
| Q703 | F-4 |
| Q704 | * F-4 |
| Q705 | * F-4 |
| Q706 | D-3 |
| Q707 | C-3 |
| Q708 | * C-3 |
| Q709 | * C-3 |
| Q710 | * C-3 |
| Q751 | * B-1 |
| Q752 | * B-1 |
| Q753 | * B-2 |
| Q754 | * B-1 |
| Q755 | * B-1 |
| Q756 | * B-1 |
| Q2000 | * D-2 |
| Q2001 | * E-3 |
| Q2002 | * E-3 |
| Q2005 | D-3 |
| Q2006 | * D-3 |
| Q2007 | F-3 |
| Q2301 | F-2 |
| Q2302 | * E-2 |
| Q2303 | * E-2 |
| Q2304 | * E-2 |
| Q2305 | * E-2 |
| Q7001 | * B-2 |
| Q7002 | * B-2 |
| Q7003 | * B-2 |
| TP1 | F-2 |
| TP8 | D-6 |
| TP2023 | D-3 |
| TP2024 | A-2 |
| TP2025 | C-5 |

## E BOARD



**E** –A SIDE–

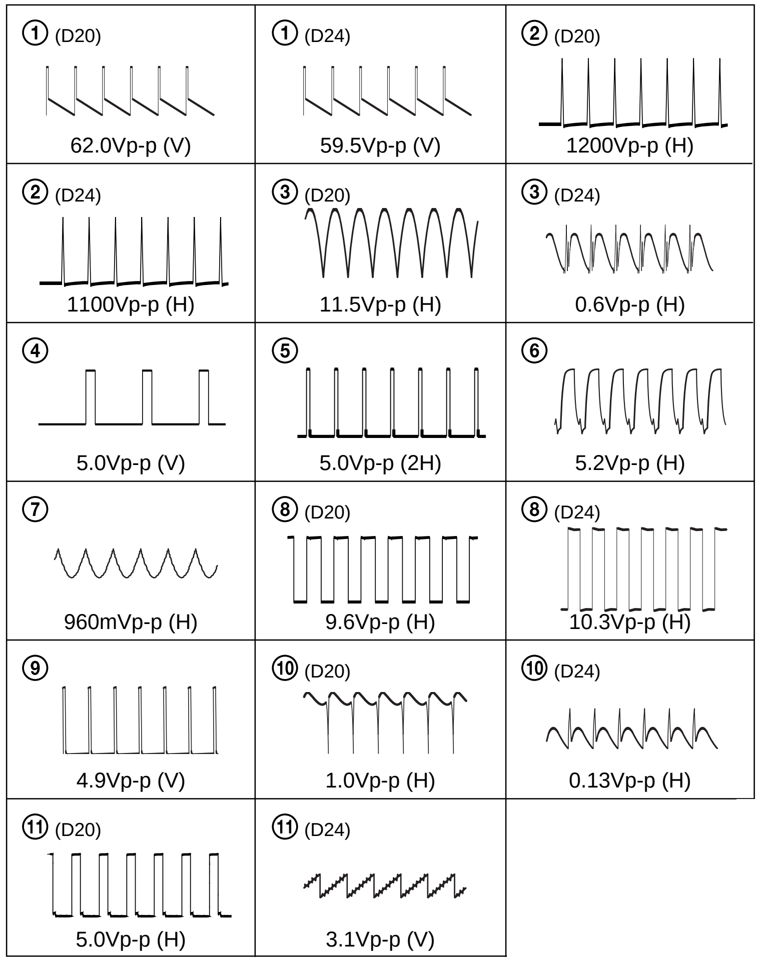
SUFFIX: -12


G
F
E
D
C
B
A
1
2
3
4
5
6
7
1-674-660-12
E
DTV
SONY
CN1002
CN1001
CN2002
CN2001
CN501
CN503
CN1
CN2
IC2004
IC2001
IC401
IC902
IC901
IC102
IC50
IC601
T1
T2
T3
T4
L101
L1
L2
RY1
FL1006
FL1007
TP2024
TP2023
TP2025
TP8
TP1
Q2
Q21
Q204
Q203
Q208
Q205
Q207
B

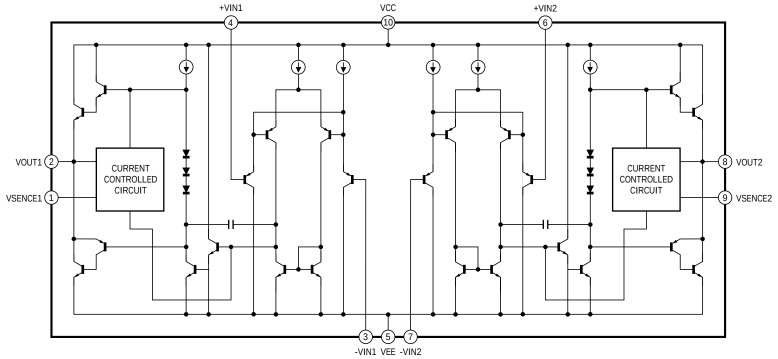
**E** **–B SIDE–**

SUFFIX: -12

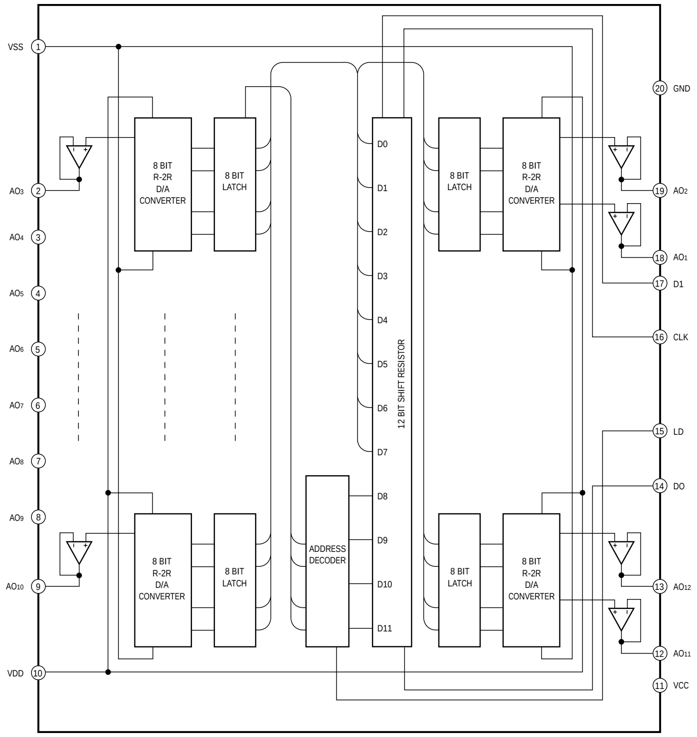
## E BOARD WAVEFORMS



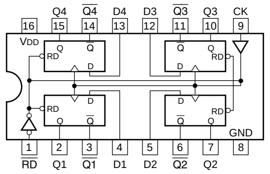
## LA6510 (IC801)


+VIN1
VCC
+VIN2
VOUT1
VSENCE1
CURRENT CONTROLLED CIRCUIT
CURRENT CONTROLLED CIRCUIT
VOUT2
VSENCE2
-VIN1
VEE
-VIN2

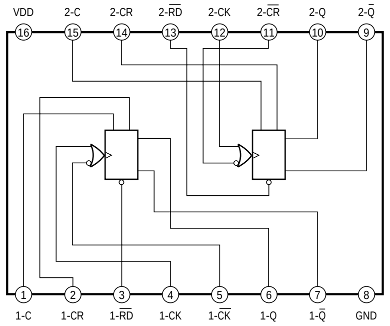
## MB88346BPFV-EF (IC7005)


VSS
AO3
AO4
AO5
AO6
AO7
AO8
AO9
AO10
VDD
GND
AO2
AO1
D1
CLK
LD
DO
AO12
AO11
VCC
8 BIT R-2R D/A CONVERTER
8 BIT LATCH
ADDRESS DECODER
12 BIT SHIFT RESISTOR
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11

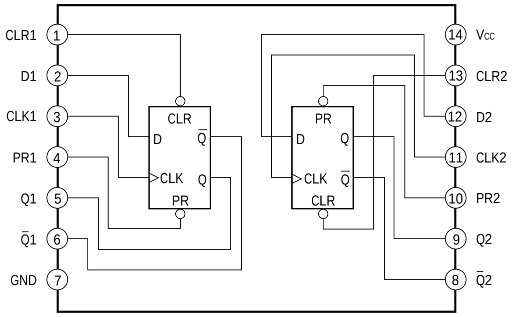
## MC74HC175FEL (IC2304)


Q4
Q̄4
D4
D3
Q̄3
Q3
CK
VDD
RD
Q
D
GND
R̄D
Q1
Q̄1
D1
D2
Q̄2
Q2

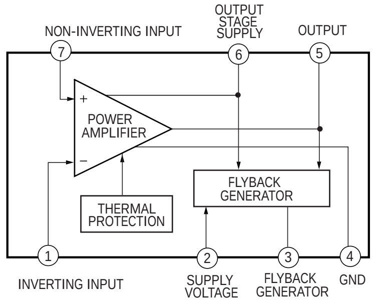
## MC74HC4538AFEL (IC2002, 2302)


VDD
2-C
2-CR
2-R̄D
2-CK
2-C̄R
2-Q
2-Q̄
1-C
1-CR
1-R̄D
1-CK
1-C̄K
1-Q
1-Q̄
GND

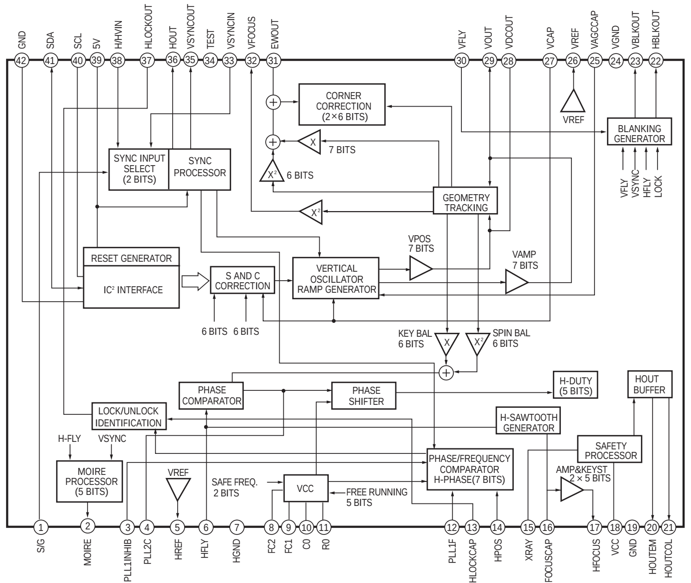
## MC74HC74AFEL (IC2303)


CLR1
D1
CLK1
PR1
Q1
Q̄1
GND
VCC
CLR2
D2
CLK2
PR2
Q2
Q̄2
CLR
D
Q̄
CLK
Q
PR

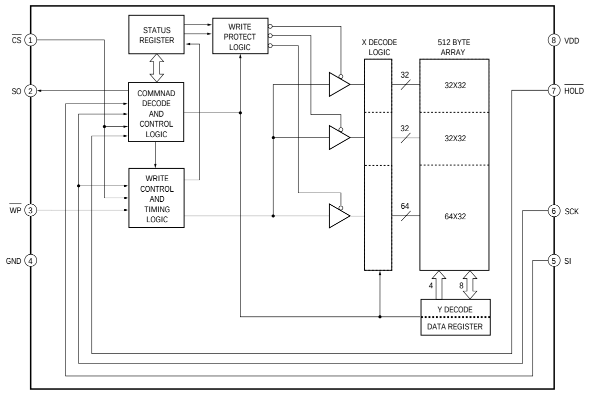
## STV9379 (IC601)

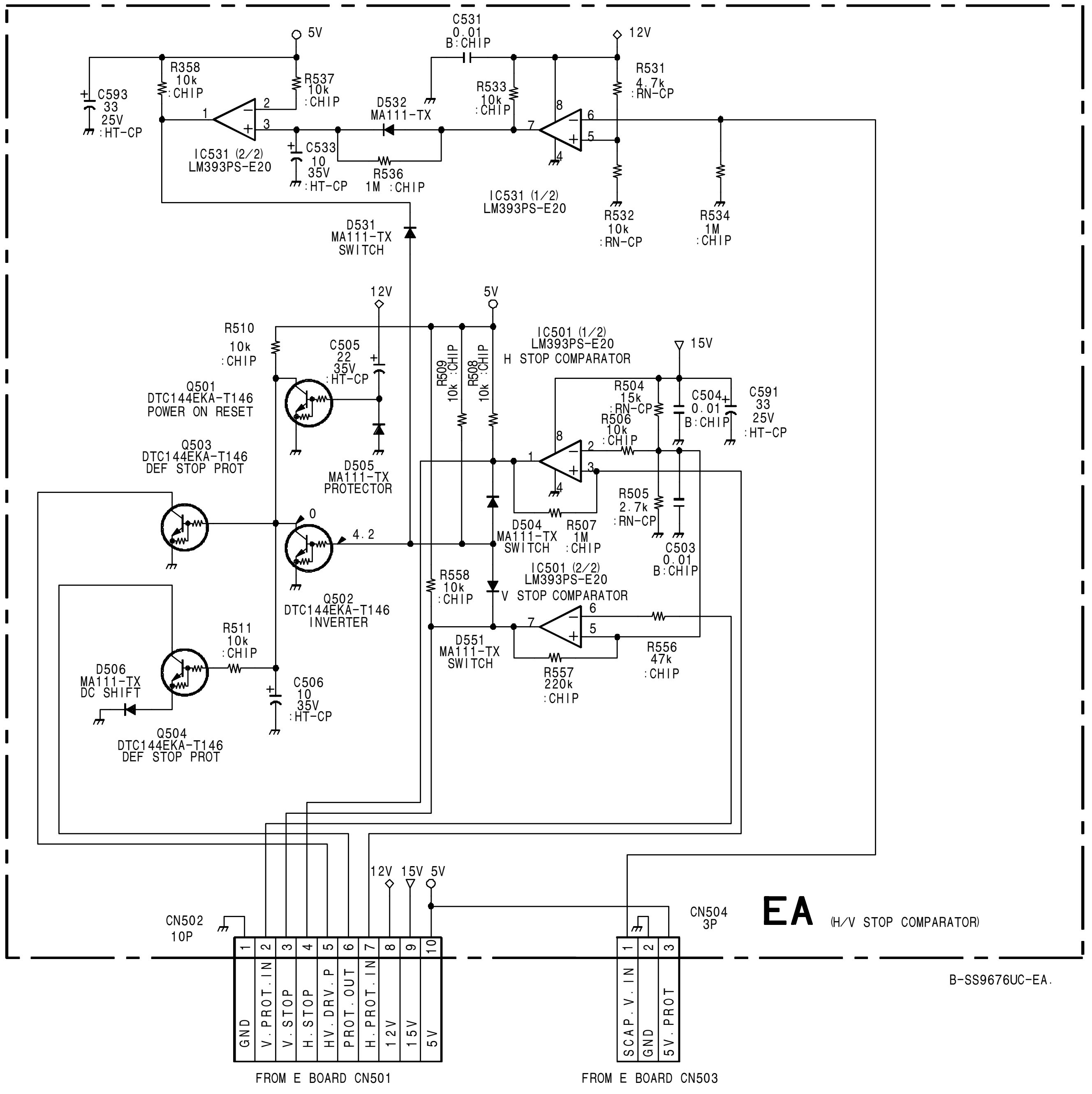

NON-INVERTING INPUT
OUTPUT STAGE SUPPLY
OUTPUT
POWER AMPLIFIER
THERMAL PROTECTION
FLYBACK GENERATOR
INVERTING INPUT
SUPPLY VOLTAGE
FLYBACK GENERATOR
GND

## TDA9106 (IC2001)

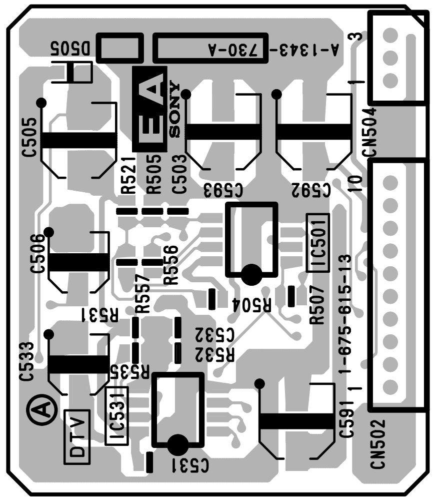

GND
SDA
SCL
5V
H/HVIN
HLOCKOUT
HOUT
VSYNCOUT
TEST
VSYNCIN
VFOCUS
EWOUT
VFLY
VOUT
VDCOUT
VCAP
VREF
VAGCCAP
VGND
VBLKOUT
HBLKOUT
CORNER CORRECTION (2×6 BITS)
7 BITS
6 BITS
SYNC INPUT SELECT (2 BITS)
SYNC PROCESSOR
GEOMETRY TRACKING
BLANKING GENERATOR
RESET GENERATOR
I²C INTERFACE
S AND C CORRECTION
VERTICAL OSCILLATOR RAMP GENERATOR
VPOS 7 BITS
VAMP 7 BITS
KEY BAL 6 BITS
SPIN BAL 6 BITS
PHASE COMPARATOR
PHASE SHIFTER
H-DUTY (5 BITS)
HOUT BUFFER
LOCK/UNLOCK IDENTIFICATION
H-SAWTOOTH GENERATOR
MOIRE PROCESSOR (5 BITS)
SAFE FREQ. 2 BITS
FREE RUNNING 5 BITS
PHASE/FREQUENCY COMPARATOR H-PHASE(7 BITS)
SAFETY PROCESSOR
AMP&KEYST 2×5 BITS
S/G
MOIRE
PLL1INHIB
PLL2C
HREF
HFLY
HGND
FC2
FC1
C0
R0
PLL1F
HLOCKCAP
HPOS
XRAY
HFOCUSCAP
HFOCUS
VCC
GND
HOUTEM
HOUTCOL

## X25040S-C7000 (IC7004, 7006, 7007, 7008, 7009, 7010)

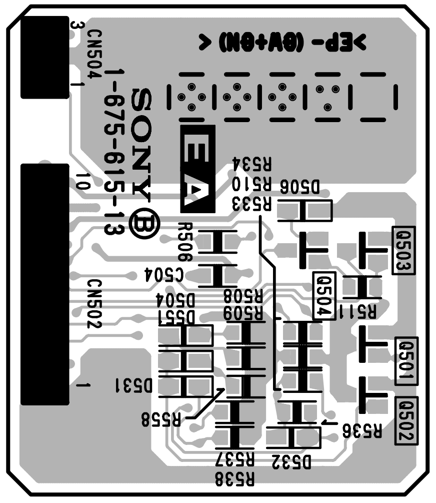

C̄S̄
SO
W̄P̄
GND
VDD
H̄ŌL̄D̄
SCK
SI
STATUS REGISTER
WRITE PROTECT LOGIC
COMMNAD DECODE AND CONTROL LOGIC
WRITE CONTROL AND TIMING LOGIC
X DECODE LOGIC
512 BYTE ARRAY
32X32
32X32
64X32
Y DECODE
DATA REGISTER


EA (H/V STOP COMPARATOR)
B-SS9676UC-EA.
5V
12V
15V
C531 0.01 B:CHIP
R358 10k :CHIP
C593 33 25V :HT-CP
R537 10k :CHIP
D532 MA111-TX
R533 10k :CHIP
R531 4.7k :RN-CP
IC531 (2/2) LM393PS-E20
C533 10 35V :HT-CP
R536 1M :CHIP
IC531 (1/2) LM393PS-E20
R532 10k :RN-CP
R534 1M :CHIP
D531 MA111-TX SWITCH
R510 10k :CHIP
C505 22 35V :HT-CP
R509 10k :CHIP
R508 10k :CHIP
IC501 (1/2) LM393PS-E20 H STOP COMPARATOR
Q501 DTC144EKA-T146 POWER ON RESET
R504 15k :RN-CP
R506 10k :CHIP
C504 0.01 B:CHIP
C591 33 25V :HT-CP
Q503 DTC144EKA-T146 DEF STOP PROT
D505 MA111-TX PROTECTOR
R505 2.7k :RN-CP
0
4.2
D504 MA111-TX SWITCH
R507 1M :CHIP
C503 0.01 B:CHIP
Q502 DTC144EKA-T146 INVERTER
R558 10k :CHIP
IC501 (2/2) LM393PS-E20 V STOP COMPARATOR
R511 10k :CHIP
D551 MA111-TX SWITCH
R556 47k :CHIP
R557 220k :CHIP
D506 MA111-TX DC SHIFT
C506 10 35V :HT-CP
Q504 DTC144EKA-T146 DEF STOP PROT
CN502 10P
CN504 3P
1 GND
2 V.PROT.IN
3 V.STOP
4 H.STOP
5 HV.DRV.P
6 PROT.OUT
7 H.PROT.IN
8 12V
9 15V
10 5V
1 SCAP.V.IN
2 GND
3 5V.PROT
FROM E BOARD CN501
FROM E BOARD CN503

## EA BOARD


D505
A-1343-730-A
EA
SONY
C505
R521
R505
C503
C593
C592
CN504
C506
R556
IC501
R557
R531
R504
R507
1-675-815-13
C533
R535
C532
R532
IC531
C591
CN502
DTV
C531
3
1
10
1

**EA** **–A SIDE–**
SUFFIX: -13


CN504
1-675-815-13
SONY
EA
R534
R510
D506
R533
R508
C504
D504
R509
D551
Q503
Q504
R511
CN502
D531
Q501
R558
R537
D532
R536
Q502
R538
3
10
1

**EA** **–B SIDE–**
SUFFIX: -13

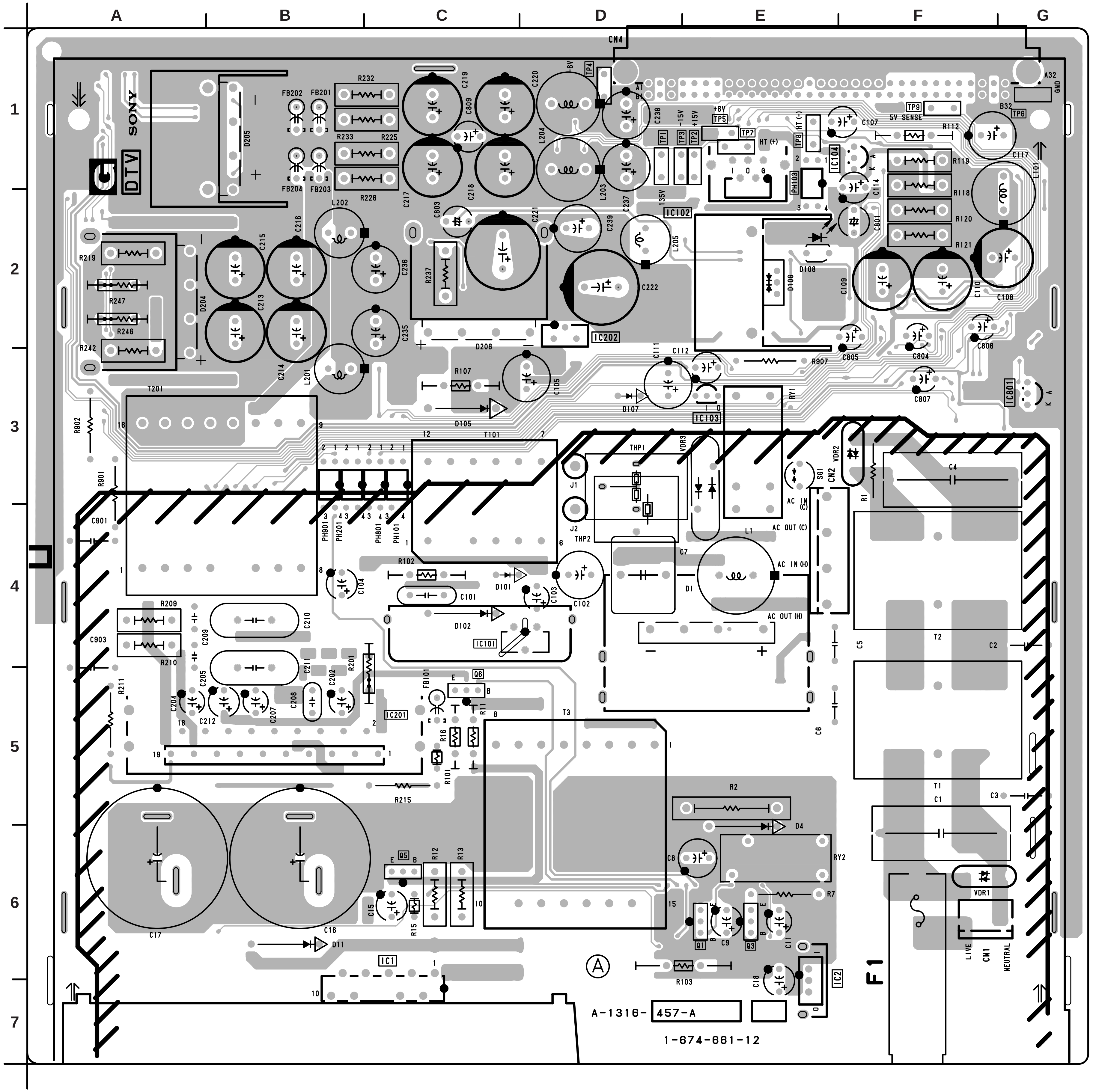
## G BOARD

*: B SIDE

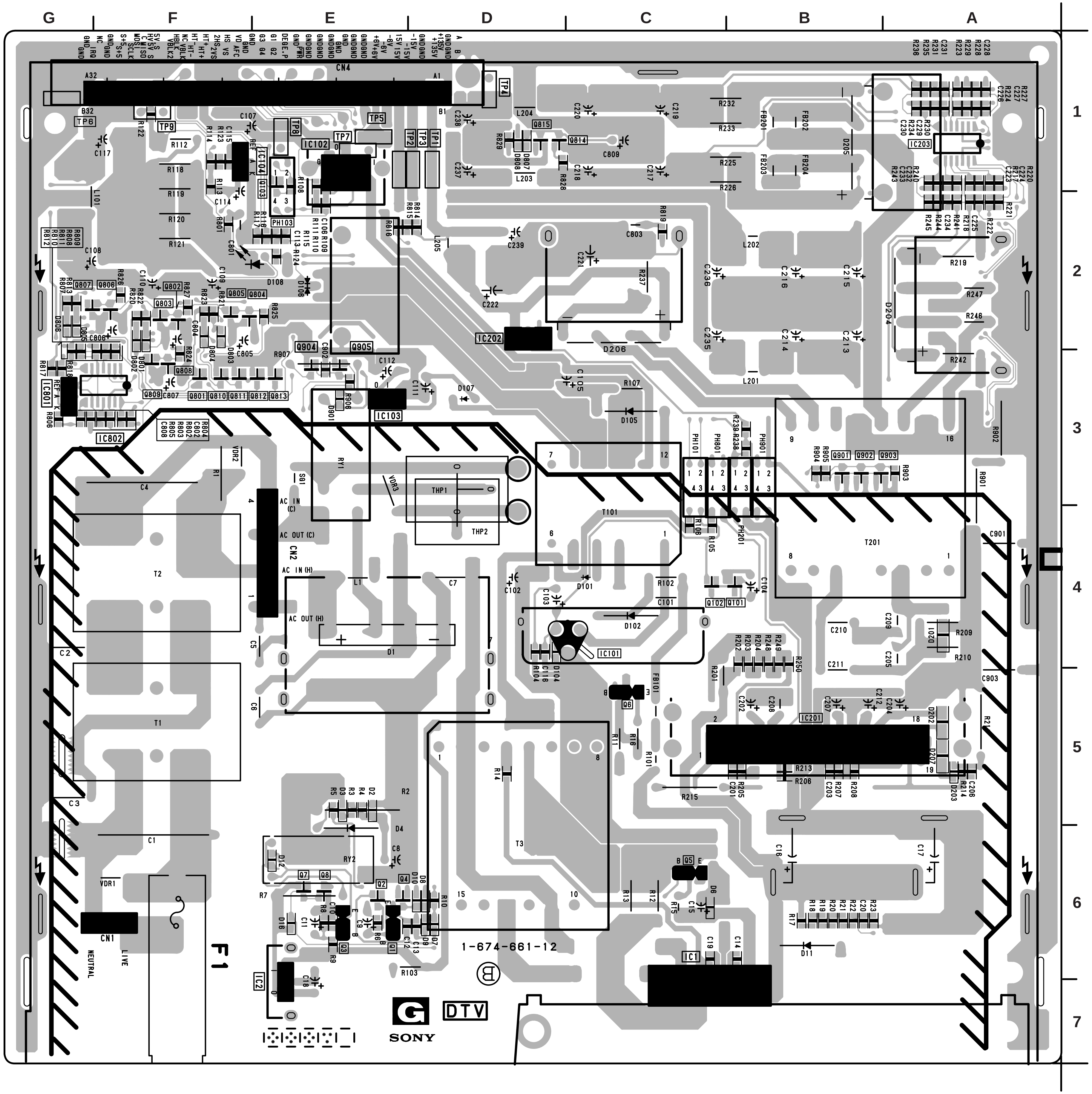
| | |
|---|---|
| D1 | E-4 |
| D2 | * E-5 |
| D3 | * E-5 |
| D4 | E-6 |
| D5 | * E-6 |
| D6 | * C-6 |
| D7 | * D-6 |
| D8 | * D-6 |
| D9 | * D-6 |
| D10 | * D-6 |
| D11 | B-6 |
| D12 | * E-6 |
| D101 | C-4 |
| D102 | C-4 |
| D104 | * C-4 |
| D105 | C-3 |
| D106 | E-2 |
| D107 | D-3 |
| D108 | E-2 |
| D201 | * A-4 |
| D202 | * A-5 |
| D203 | * A-5 |
| D204 | A-2 |
| D205 | B-1 |
| D206 | C-2 |
| D207 | * A-5 |
| D801 | * F-2 |
| D802 | * F-2 |
| D803 | * F-2 |
| D804 | * F-2 |
| D805 | * G-2 |
| D806 | * G-2 |
| D807 | * D-1 |
| D808 | * D-1 |
| D901 | E-3 |
| | |
| IC1 | C-6 |
| IC2 | E-6 |
| IC101 | D-4 |
| IC102 | E-2 |
| IC103 | E-3 |
| IC104 | F-1 |
| IC201 | B-5 |
| IC202 | D-2 |
| IC203 | * A-1 |
| IC801 | G-3 |
| IC802 | * F-3 |

| | |
|---|---|
| Q1 | E-6 |
| Q2 | * E-6 |
| Q3 | E-6 |
| Q4 | * E-6 |
| Q5 | C-6 |
| Q6 | C-5 |
| Q101 | * B-4 |
| Q102 | * C-4 |
| Q103 | * E-1 |
| Q801 | F-3 |
| Q802 | * F-2 |
| Q803 | * F-2 |
| Q804 | * E-2 |
| Q805 | * F-2 |
| Q806 | * F-2 |
| Q807 | * G-2 |
| Q808 | * F-3 |
| Q809 | * F-3 |
| Q810 | * F-3 |
| Q811 | * F-3 |
| Q812 | * E-3 |
| Q813 | * E-3 |
| Q814 | * D-1 |
| Q815 | * D-1 |
| Q901 | * B-3 |
| Q902 | * B-3 |
| Q903 | * B-3 |
| Q904 | * E-3 |
| Q905 | * E-3 |
| | |
| TP1 | D-1 |
| TP2 | E-1 |
| TP3 | D-1 |
| TP4 | D-1 |
| TP5 | E-1 |
| TP6 | G-1 |
| TP7 | E-1 |
| TP8 | E-1 |
| TP9 | F-1 |

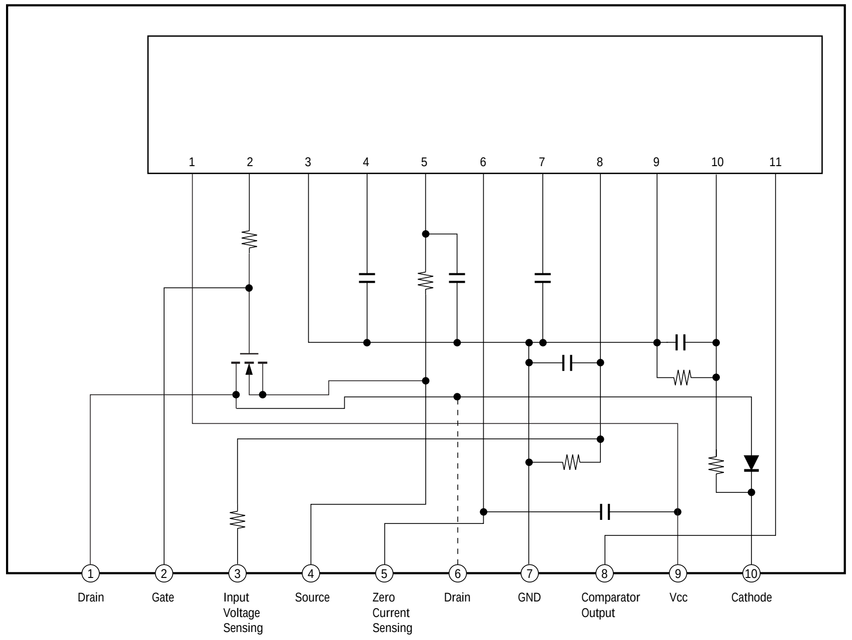
## G BOARD



**G** –A SIDE–
SUFFIX: -12

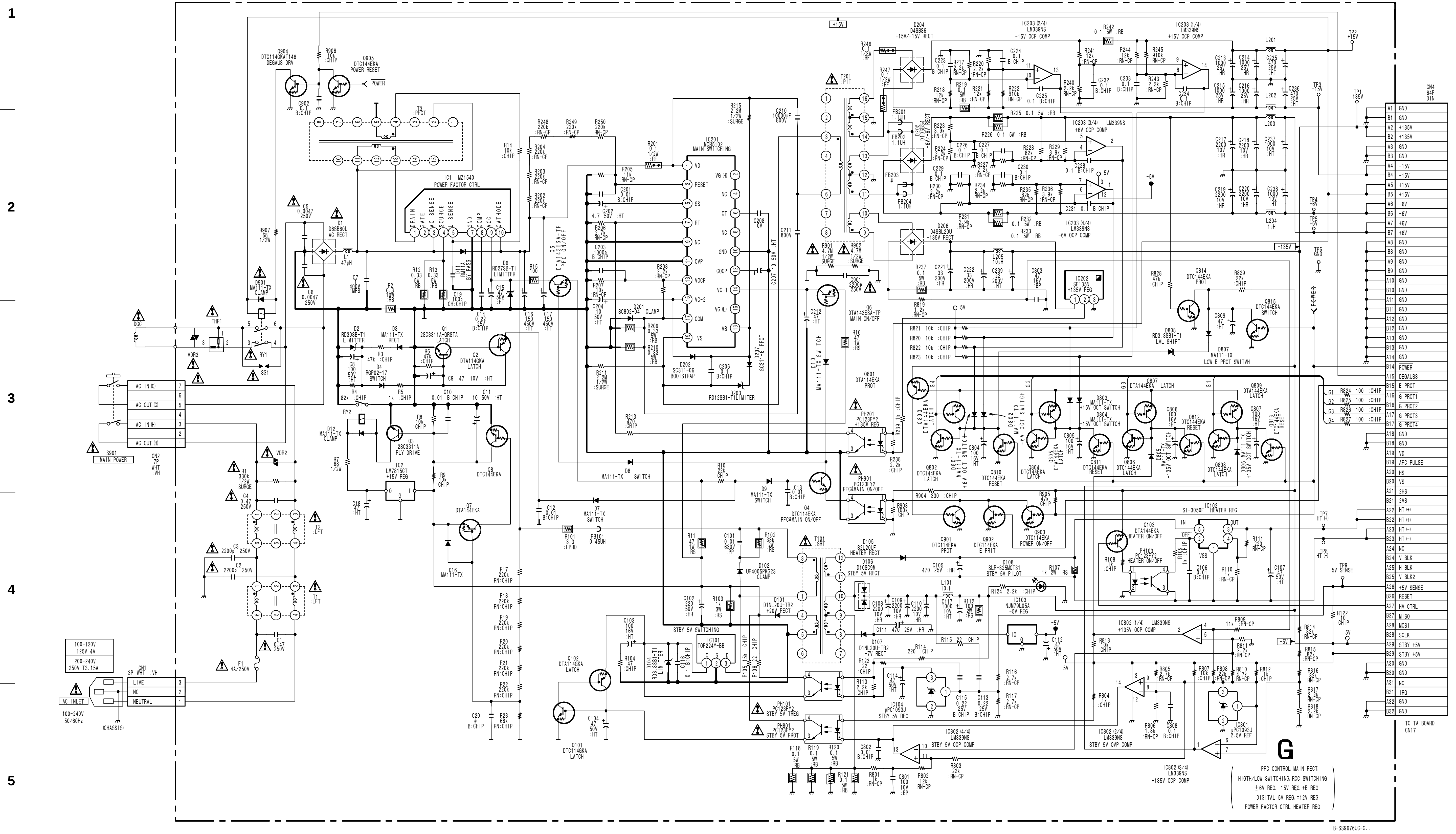

G
F
E
D
C
B
A
1
2
3
4
5
6
7
CN4
A32
A1
B32
B1
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
IC101
IC102
IC103
IC104
IC201
IC202
IC203
IC801
IC802
IC1
IC2
CN2
AC IN (C)
AC OUT (C)
AC IN (H)
AC OUT (H)
T1
T2
T3
T101
T201
THP1
THP2
RY1
RY2
VDR1
VDR2
VDR3
L1
C7
D1
CN1
NEUTRAL
LIVE
F1
1-674-661-12
B
DTV
SONY

## MZ1540 (IC1)

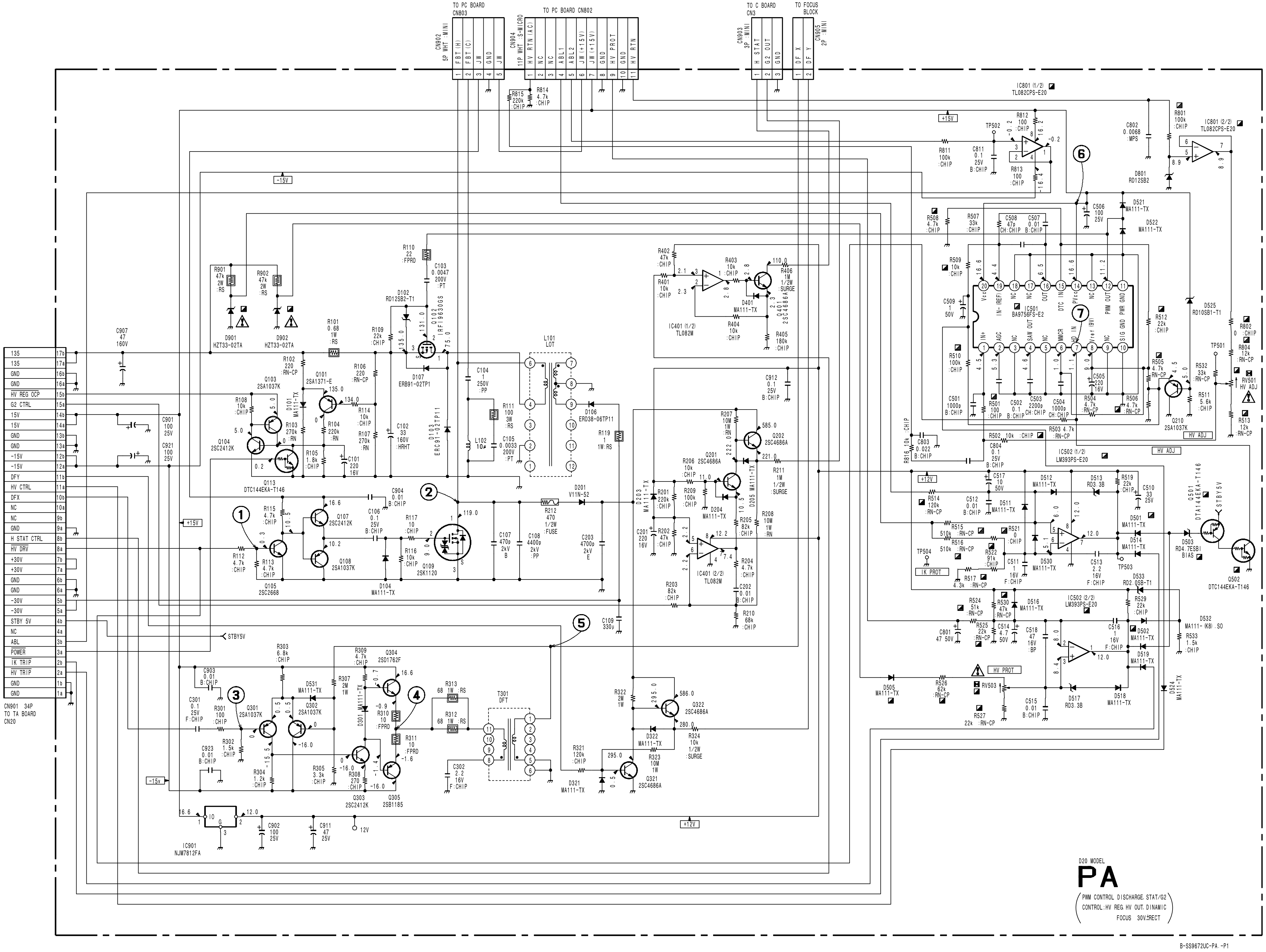

1
2
3
4
5
6
7
8
9
10
11
1 Drain
2 Gate
3 Input Voltage Sensing
4 Source
5 Zero Current Sensing
6 Drain
7 GND
8 Comparator Output
9 Vcc
10 Cathode

## G –B SIDE–

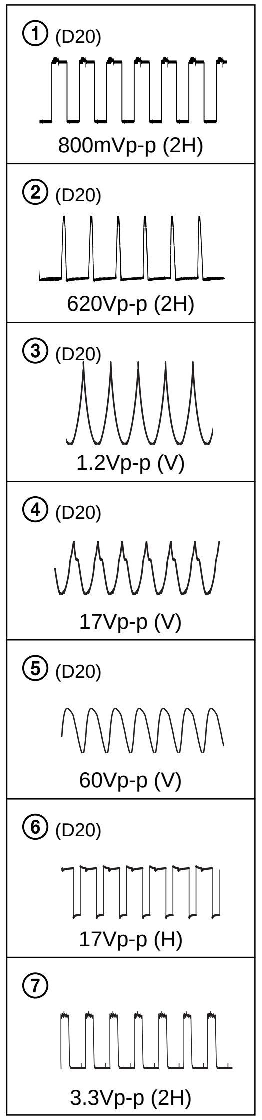
SUFFIX: -12


1
2
3
4
5
G
PFC CONTROL, MAIN RECT.
HIGTH/LOW SWITCHING, RCC SWITCHING
±6V REG, 15V REG, +B REG
DIGITAL 5V REG, ±12V REG
POWER FACTOR CTRL, HEATER REG
B-SS9676UC-G..
IC1 MZ1540 POWER FACTOR CTRL
IC201 MCZ5102 MAIN SWITCHING
IC101 TOP224Y-BB STBY 5V SWITCHING
IC102 SI-3050F HEATER REG
IC103 NJM79L05A -5V REG
IC104 µPC1093J STBY 5V REG
IC202 SE135N +135V REG
IC203 (1/4) LM339NS +15V OCP COMP
IC203 (2/4) LM339NS -15V OCP COMP
IC203 (3/4) LM339NS +6V OCP COMP
IC203 (4/4) LM339NS -6V OCP COMP
IC801 µPC1093J 2.5V REF
IC802 (1/4) LM339NS +135V OCP COMP
IC802 (2/4) LM339NS STBY 5V OVP COMP
IC802 (3/4) LM339NS +135V OCP COMP
IC802 (4/4) LM339NS STBY 5V OCP COMP
IC2 LM7815CT +15V REG
T201 PIT
T101 SRT
T2 LFT
T1 LFT
T3 PFCT
S901 MAIN POWER
F1 4A/250V
100-120V 125V 4A
200-240V 250V T3.15A
CN1 3P WHT :VH
LIVE
NC
NEUTRAL
AC INLET
100-240V 50/60Hz
(CHASSIS)
CN2 7P WHT :VH
AC IN (C)
AC OUT (C)
AC IN (H)
AC OUT (H)
DGC
THP1
RY1
RY2
SG1
VDR2
VDR3
Q904 DTC114GKAT146 DEGAUS DRV
Q905 DTC144EKA POWER RESET
Q5 DTA143ESA-TP PFC ON/OFF
Q6 DTA143ESA-TP MAIN ON/OFF
Q1 2SC3311A-QRSTA LATCH
Q3 2SC3311A RLY DRIVE
Q4 DTC114EKA PFC&MAIN ON/OFF
Q101 DTC114GKA LATCH
Q102 DTA114GKA LATCH
Q103 DTA144EKA HEATER ON/OFF
PH101 PC123FY2 STBY 5V TREG
PH801 PC123FY2 STBY 5V PROT
PH103 PC123FY2 HEATER ON/OFF
PH201 PC123FY2 +135V PROT
PH901 PC123FY2 PFC&MAIN ON/OFF
Q901 DTC114EKA PROT
Q902 DTC114EKA E PRIT
Q903 DTC114EKA POWER ON/OFF
Q814 DTC144EKA PROT
Q815 DTC144EKA SWITCH
CN4 64P DIN
A1 GND
B1 GND
A2 +135V
B2 +135V
A3 GND
B3 GND
A4 -15V
B4 -15V
A5 +15V
B5 +15V
A6 -6V
B6 -6V
A7 +6V
B7 +6V
A8 GND
B8 GND
A9 GND
B9 GND
A10 GND
B10 GND
A11 GND
B11 GND
A12 GND
B12 GND
A13 GND
B13 GND
A14 GND
B14 POWER
A15 DEGAUSS
B15 E PROT
A16 G PROT1
B16 G PROT2
A17 G PROT3
B17 G PROT4
A18 GND
B18 GND
A19 VD
B19 AFC PULSE
A20 HS
B20 VS
A21 2HS
B21 2VS
A22 HT (+)
B22 HT (+)
A23 HT (-)
B23 HT (-)
A24 NC
B24 V BLK
A25 H BLK
B25 V BLK2
A26 +5V SENSE
B26 RESET
A27 HV CTRL
B27 MISO
A28 MOSI
B28 SCLK
A29 STBY +5V
B29 STBY +5V
A30 GND
B30 GND
A31 NC
B31 IRQ
A32 GND
B32 GND
TO TA BOARD CN17
TP1 135V
TP2 +15V
TP3 -15V
TP4 -6V
TP5 +6V
TP6 GND
TP7 HT (+)
TP8 HT (-)
TP9 5V SENSE

**PA** 20 inch model


TO PC BOARD CN803
TO PC BOARD CN802
TO C BOARD CN3
TO FOCUS BLOCK
CN901 34P TO TA BOARD CN20
IC401 TL082M
IC501 BA9756FS-E2
IC502 LM393PS-E20
IC801 TL082CPS-E20
IC901 NJM7812FA
L101 LOT
T301 DFT
D20 MODEL
PA
PWM CONTROL DISCHARGE STAT/G2 CONTROL:HV REG HV OUT.DINAMIC FOCUS 30V:RECT
B-SS9672UC-PA.-P1

## PA BOARD WAVEFORMS (20 inch)



1
2
3
4
5

11-53

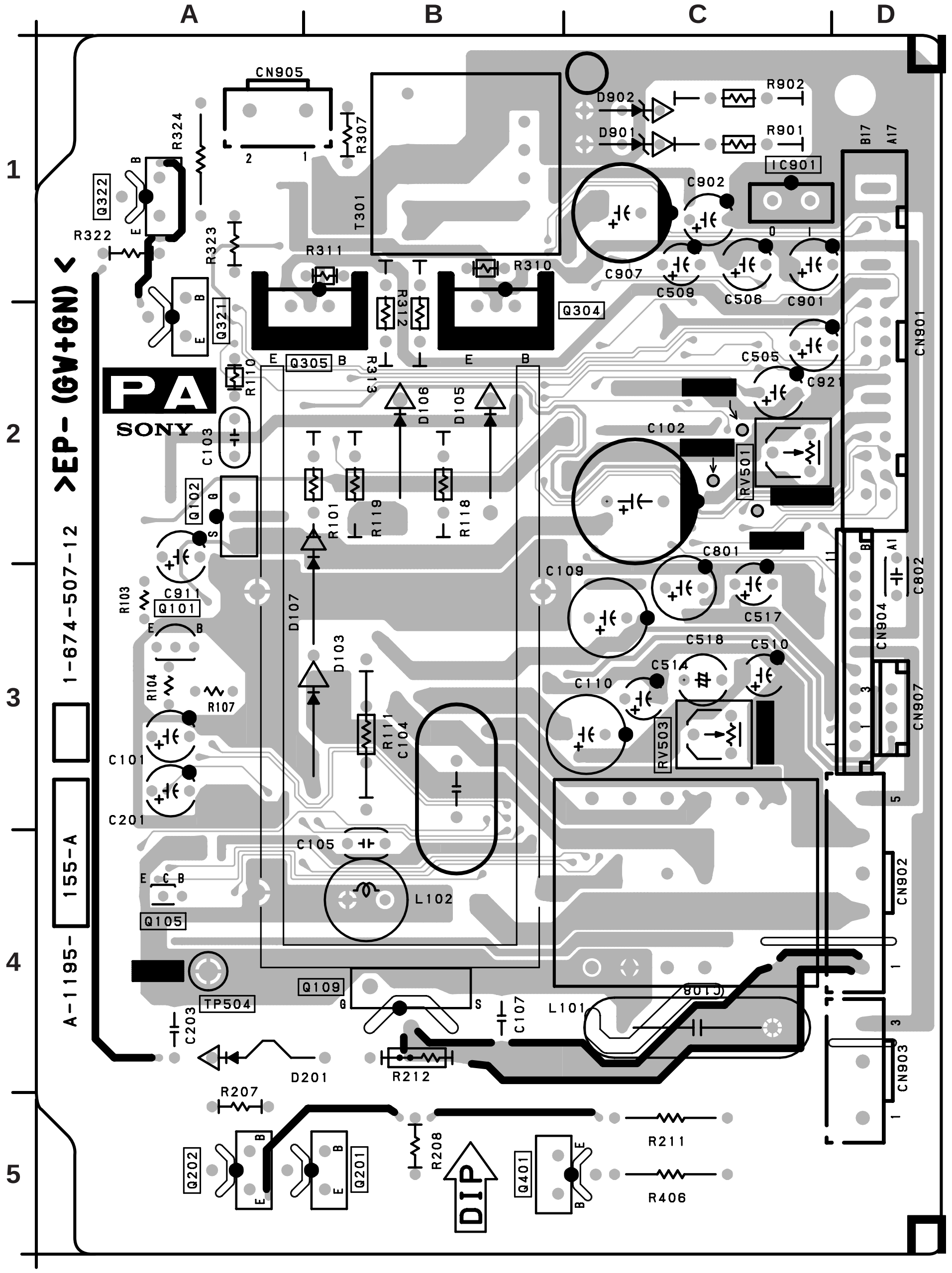
A B C D E F G H

## PA BOARD

### PA BOARD (D20)

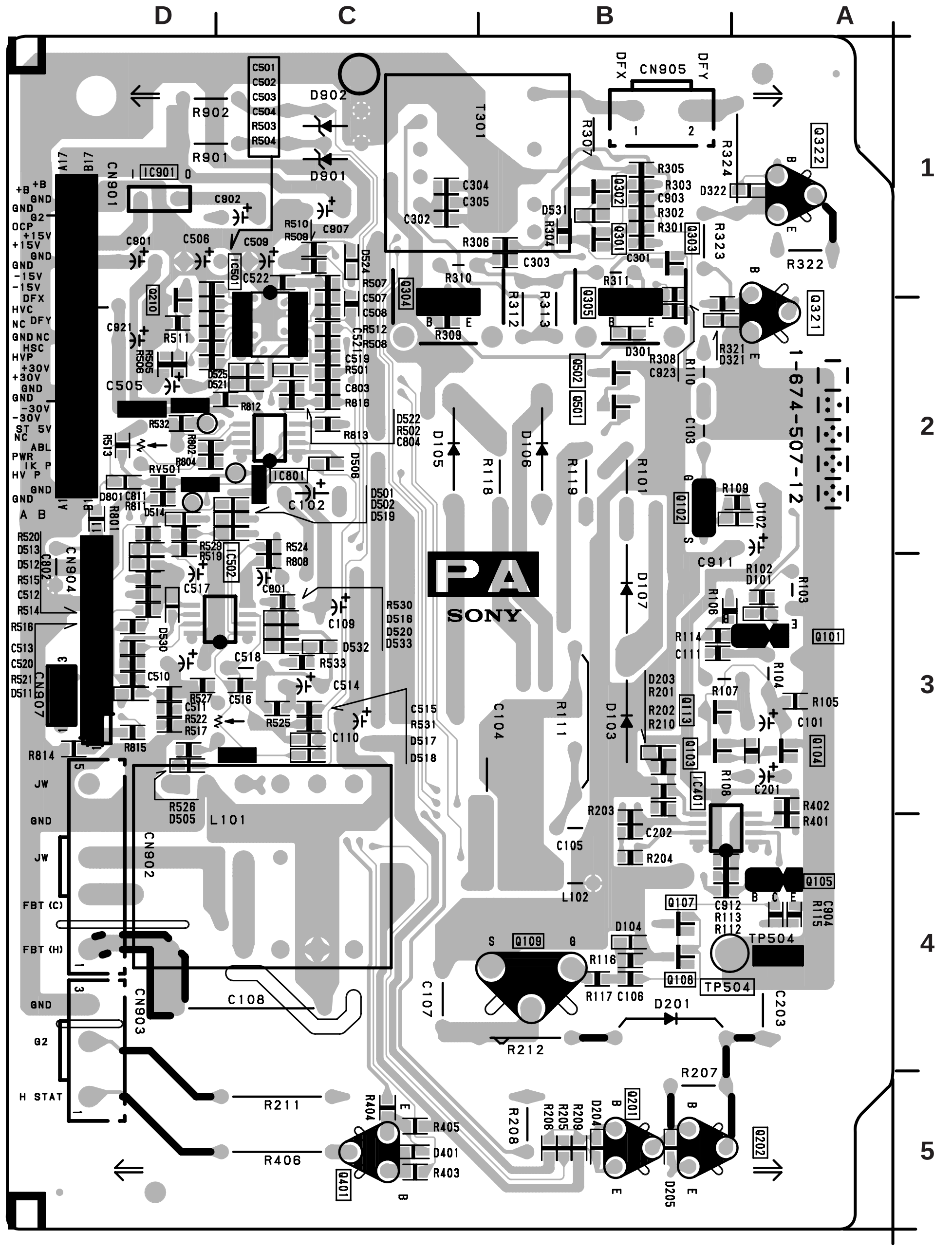
*: B SIDE

| | |
|---|---|
| D101 | * A-3 |
| D102 | * A-2 |
| D103 | A-3 |
| D104 | * B-4 |
| D105 | B-2 |
| D106 | B-2 |
| D107 | A-2 |
| D201 | A-4 |
| D203 | * A-3 |
| D204 | * B-5 |
| D205 | * A-5 |
| D301 | * B-2 |
| D321 | * A-2 |
| D322 | * A-1 |
| D401 | * B-5 |
| D501 | * C-2 |
| D502 | * C-2 |
| D505 | * C-3 |
| D511 | * D-3 |
| D512 | * D-3 |
| D513 | * D-3 |
| D514 | * C-2 |
| D516 | * C-3 |
| D517 | * C-3 |
| D518 | * C-3 |
| D519 | * C-3 |
| D521 | * C-2 |
| D522 | * C-2 |
| D524 | * C-1 |
| D525 | * C-2 |
| D530 | * C-3 |
| D531 | * B-1 |
| D801 | * C-2 |
| D901 | C-1 |
| D902 | C-1 |
| | |
| IC401 | * A-4 |
| IC501 | * C-2 |
| IC502 | * C-3 |
| IC801 | * C-2 |
| IC901 | C-1 |
| | |
| Q101 | A-3 |
| Q102 | A-2 |
| Q103 | * A-3 |
| Q104 | * A-3 |
| Q105 | A-4 |
| Q107 | * A-4 |
| Q108 | * A-4 |
| Q109 | B-4 |
| Q113 | * A-3 |
| Q201 | B-5 |
| Q202 | A-5 |
| Q210 | * C-2 |
| Q301 | * B-1 |
| Q302 | * B-1 |
| Q303 | * A-1 |
| Q304 | B-2 |
| Q305 | A-2 |
| Q321 | A-2 |
| Q322 | A-1 |
| Q401 | B-5 |
| Q501 | * B-2 |
| Q502 | * B-2 |
| | |
| RV501 | C-2 |
| RV503 | C-3 |
| | |
| TP504 | A-4 |



A
B
C
D
1
2
3
4
5
PA
SONY
>EP- (GV+GN) <
1-674-507-12
A-1195-
155-A
DIP
CN905
CN901
CN902
CN903
CN904
CN907
T301
L101
L102
IC901
RV501
RV503
TP504

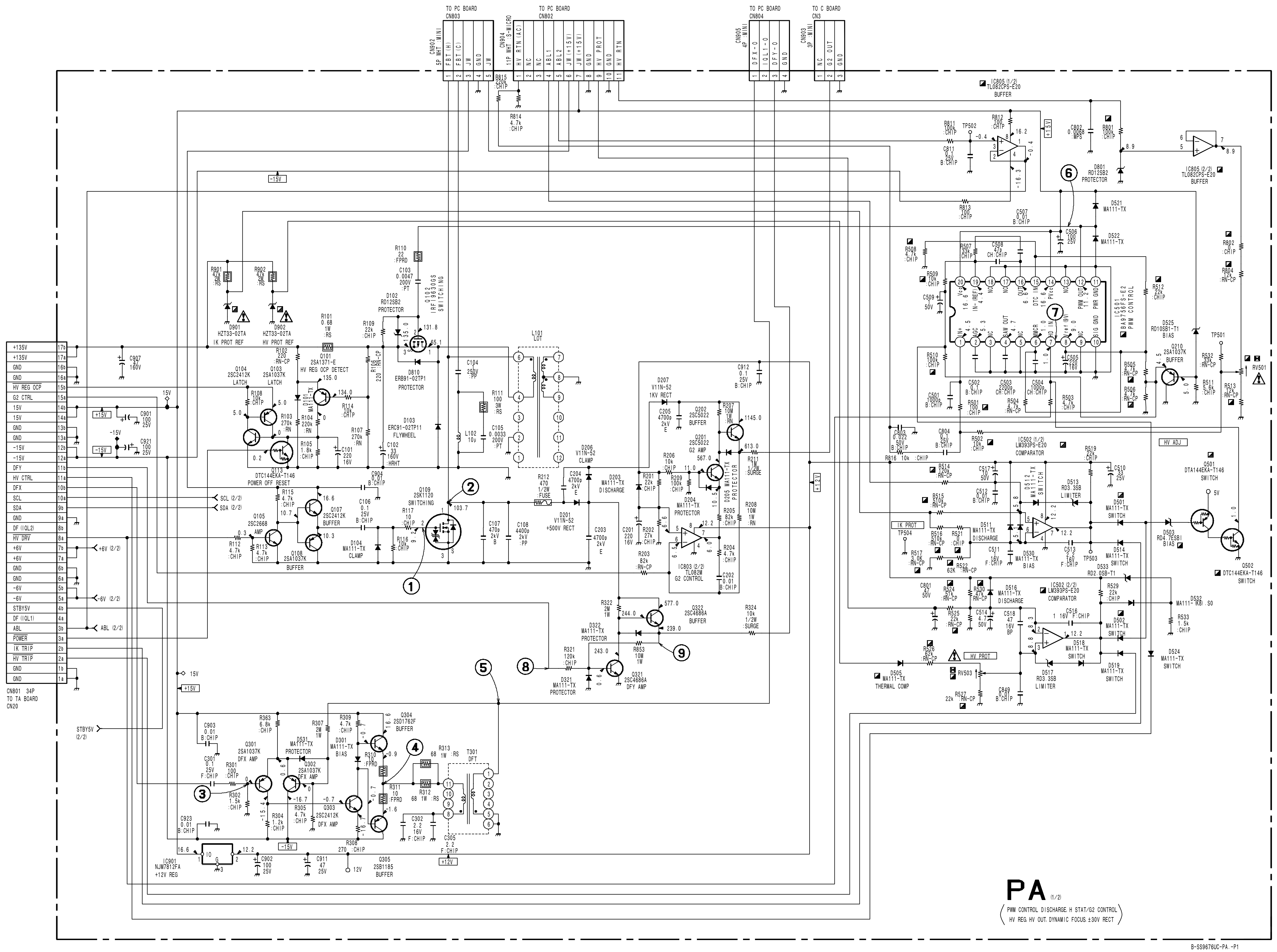
20 inch model
**PA** –A SIDE–
SUFFIX: -12



D
C
B
A
1
2
3
4
5
PA
SONY
1-674-507-12
CN905
DFX
DFY
CN901
CN902
CN903
CN904
CN907
T301
L101
L102
IC901
IC801
IC401
RV501
TP504
+B
GND
G2
OCP
+15V
-15V
DFX
DFY
HVC
NC
HSC
HVP
+30V
-30V
ST SV
ABL
PWR
IK P
HV P
JW
FBT (C)
FBT (H)
H STAT

20 inch model
**PA** –B SIDE–
SUFFIX: -12

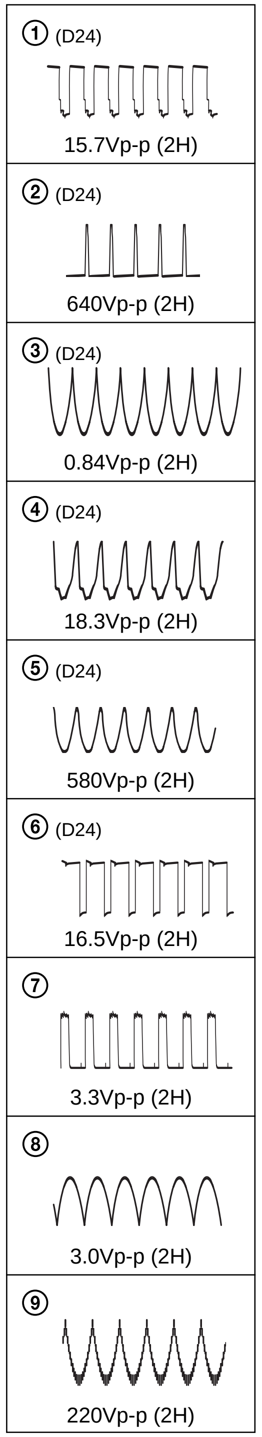
PA (1/2) 24 inch model

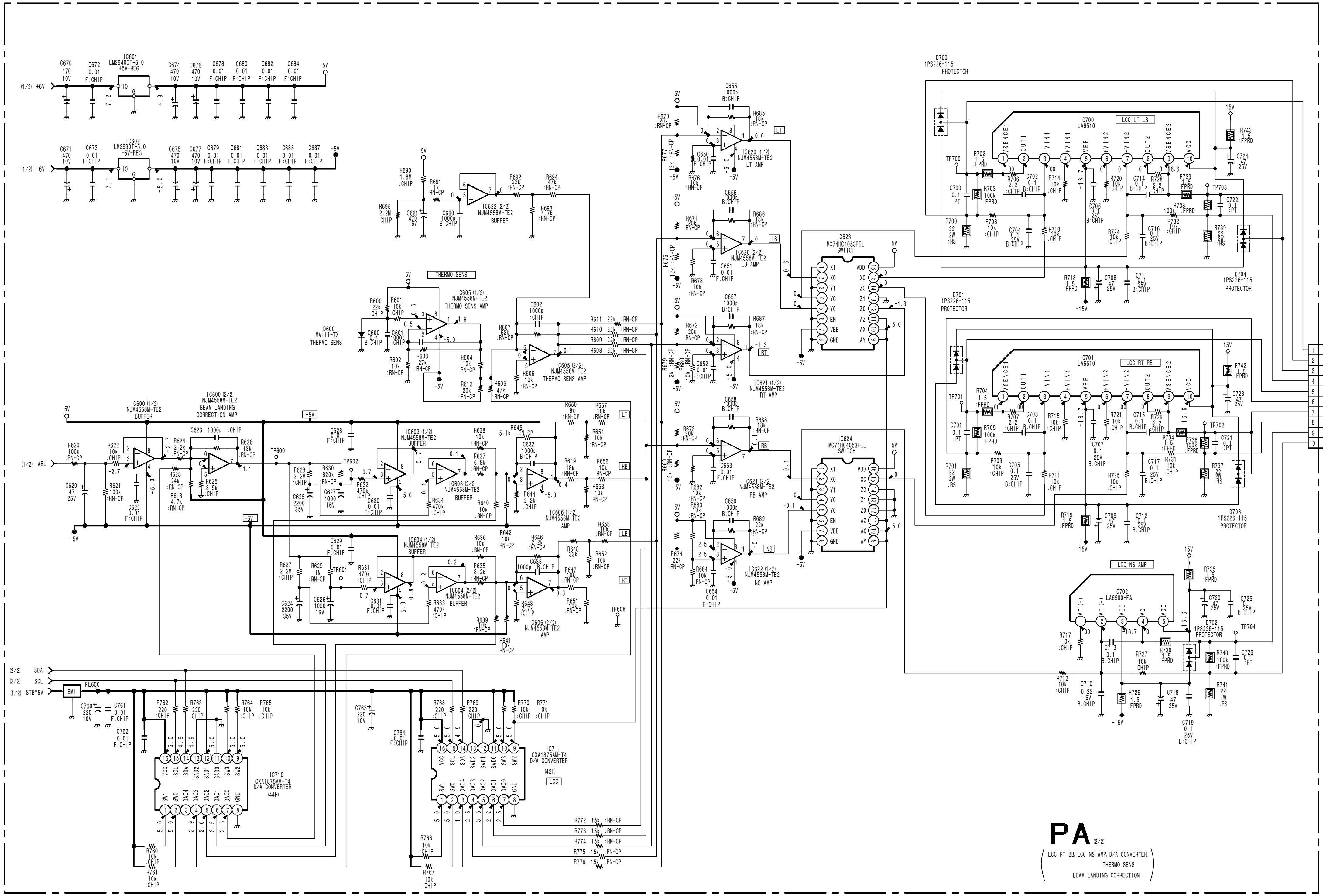

TO PC BOARD CN803
CN902 5P WHT MINI
FBT (H)
FBT (C)
JW
GND
JW
TO PC BOARD CN802
CN904 11P WHT S-MICRO
HV RTN (AC)
NC
NC
ABL1
ABL2
JW (+15V)
JW (+15V)
GND
HV PROT
GND
HV RTN
TO PC BOARD CN804
CN905 4P MINI
DFX-O
IOL1-O
DFY-O
GND
TO C BOARD CN3
CN903 3P MINI
NC
G2 OUT
GND
IC805 (1/2) TL082CPS-E20 BUFFER
IC805 (2/2) TL082CPS-E20 BUFFER
D801 RD12SB2 PROTECTOR
D521 MA111-TX
D522 MA111-TX
IC501 BA9758FS-E2 PWM CONTROL
D525 RD10SB1-T1 BIAS
Q210 2SA1037K BUFFER
RV501
TP501
TP502
HV ADJ
Q501 DTA144EKA-T146 SWITCH
Q502 DTC144EKA-T146 SWITCH
D503 RD4.7ESB1 BIAS
IC502 (1/2) LM393PS-E20 COMPARATOR
IC502 (2/2) LM393PS-E20 COMPARATOR
D512 MA111-TX SWITCH
D513 RD3.3SB LIMITER
D501 MA111-TX SWITCH
D514 MA111-TX SWITCH
D533 RD2.0SB-T1
D532 MA111-(K8) S0
D502 MA111-TX SWITCH
D518 MA111-TX SWITCH
D519 MA111-TX SWITCH
D517 RD3.3SB LIMITER
D524 MA111-TX SWITCH
D511 MA111-TX DISCHARGE
D530 MA111-TX BIAS
D516 MA111-TX DISCHARGE
D505 MA111-TX THERMAL COMP
IK PROT
TP504
TP503
HV PROT
RV503
-15V
+15V
+12V
R901 47k 2W :RS
R902 47k 2W :RS
D901 HZT33-02TA IK PROT REF
D902 HZT33-02TA HV PROT REF
R101 0.68 1W :RS
Q101 2SA1371-E HV REG OCP DETECT
Q104 2SC2412K LATCH
Q103 2SA1037K LATCH
Q113 DTC144EKA-T146 POWER OFF RESET
Q105 2SC2668 AMP
Q107 2SC2412K BUFFER
Q108 2SA1037K BUFFER
D104 MA111-TX CLAMP
D102 RD12SB2 PROTECTOR
Q102 IRF9630GS SWITCHING
D810 ERB91-02TP1 PROTECTOR
D103 ERC91-02TP11 FLYWHEEL
L101 LOT
L102 10μ
Q109 2SK1120 SWITCHING
R212 470 1/2W :FUSE
D206 V11N-52 CLAMP
D201 V11N-52 +500V RECT
D203 MA111-TX DISCHARGE
D207 V11N-52 1KV RECT
Q202 2SC5022 BUFFER
Q201 2SC5022 G2 AMP
D204 MA111-TX PROTECTOR
D205 MA111-TX PROTECTOR
IC803 (2/2) TL082M G2 CONTROL
Q322 2SC4686A BUFFER
D322 MA111-TX PROTECTOR
D321 MA111-TX PROTECTOR
Q321 2SC4686A DFY AMP
Q301 2SA1037K DFX AMP
D531 MA111-TX PROTECTOR
Q302 2SA1037K DFX AMP
Q303 2SC2412K DFX AMP
D301 MA111-TX BIAS
Q304 2SD1762F BUFFER
Q305 2SB1185 BUFFER
T301 DFT
IC901 NJM7812FA +12V REG
CN801 34P TO TA BOARD CN20
+135V
+135V
GND
GND
HV REG OCP
G2 CTRL
15V
15V
GND
GND
-15V
-15V
DFY
HV CTRL
DFX
SCL
SDA
GND
DF (IOL2)
HV DRV
+6V
+6V
GND
GND
-6V
-6V
STBY5V
DF (IOL1)
ABL
POWER
IK TRIP
HV TRIP
GND
GND
SCL (2/2)
SDA (2/2)
+6V (2/2)
-6V (2/2)
ABL (2/2)
STBY5V (2/2)
①
②
③
④
⑤
⑥
⑦
⑧
⑨
PA (1/2)
PWM CONTROL DISCHARGE H STAT/G2 CONTROL
HV REG HV OUT DYNAMIC FOCUS ±30V RECT
B-SS9676UC-PA.-P1
1
2
3
4
5
A
B
C
D
E
F
G
H

11-55

**PA (2/2)** 24 inch model

## PA BOARD WAVEFORMS (24 inch)




IC601 LM2940CT-5.0 +5V-REG
IC602 LM2990T-5.0 -5V-REG
(1/2) +6V
(1/2) -6V
(1/2) ABL
IC600 (1/2) NJM4558M-TE2 BUFFER
IC600 (2/2) NJM4558M-TE2 BEAM LANDING CORRECTION AMP
IC622 (2/2) NJM4558M-TE2 BUFFER
THERMO SENS
IC605 (1/2) NJM4558M-TE2 THERMO SENS AMP
IC605 (2/2) NJM4558M-TE2 THERMO SENS AMP
D600 MA111-TX THERMO SENS
IC603 (1/2) NJM4558M-TE2 BUFFER
IC603 (2/2) NJM4558M-TE2 BUFFER
IC604 (1/2) NJM4558M-TE2 BUFFER
IC604 (2/2) NJM4558M-TE2 BUFFER
IC606 (1/2) NJM4558M-TE2 AMP
IC606 (2/2) NJM4558M-TE2 AMP
IC620 (1/2) NJM4558M-TE2 LT AMP
IC620 (2/2) NJM4558M-TE2 LB AMP
IC621 (1/2) NJM4558M-TE2 RT AMP
IC621 (2/2) NJM4558M-TE2 RB AMP
IC622 (1/2) NJM4558M-TE2 NS AMP
IC623 MC74HC4053FEL SWITCH
IC624 MC74HC4053FEL SWITCH
IC700 LA6510
LCC LT LB
IC701 LA6510
LCC RT RB
IC702 LA6500-FA
LCC NS AMP
D700 1PS226-115 PROTECTOR
D701 1PS226-115 PROTECTOR
D702 1PS226-115 PROTECTOR
D703 1PS226-115 PROTECTOR
D704 1PS226-115 PROTECTOR
CN600 10P WHT S-MICRO
LCC-LT (+)
LCC-LT (-)
LCC-LB (+)
LCC-LB (-)
LCC-RT (+)
LCC-RT (-)
LCC-RB (+)
LCC-RB (-)
LCC-NS (+)
LCC-NS (-)
LCC-LT
LCC-LB
LCC-RT
LCC-RB
LCC-NS
(2/2) SDA
(2/2) SCL
(1/2) STBY5V
FL600
IC710 CXA1875AM-T4 D/A CONVERTER (44H)
IC711 CXA1875AM-T4 D/A CONVERTER (42H)
LCC
PA (2/2)
LCC, RT, RB, LCC NS AMP, D/A CONVERTER
THERMO SENS
BEAM LANDING CORRECTION

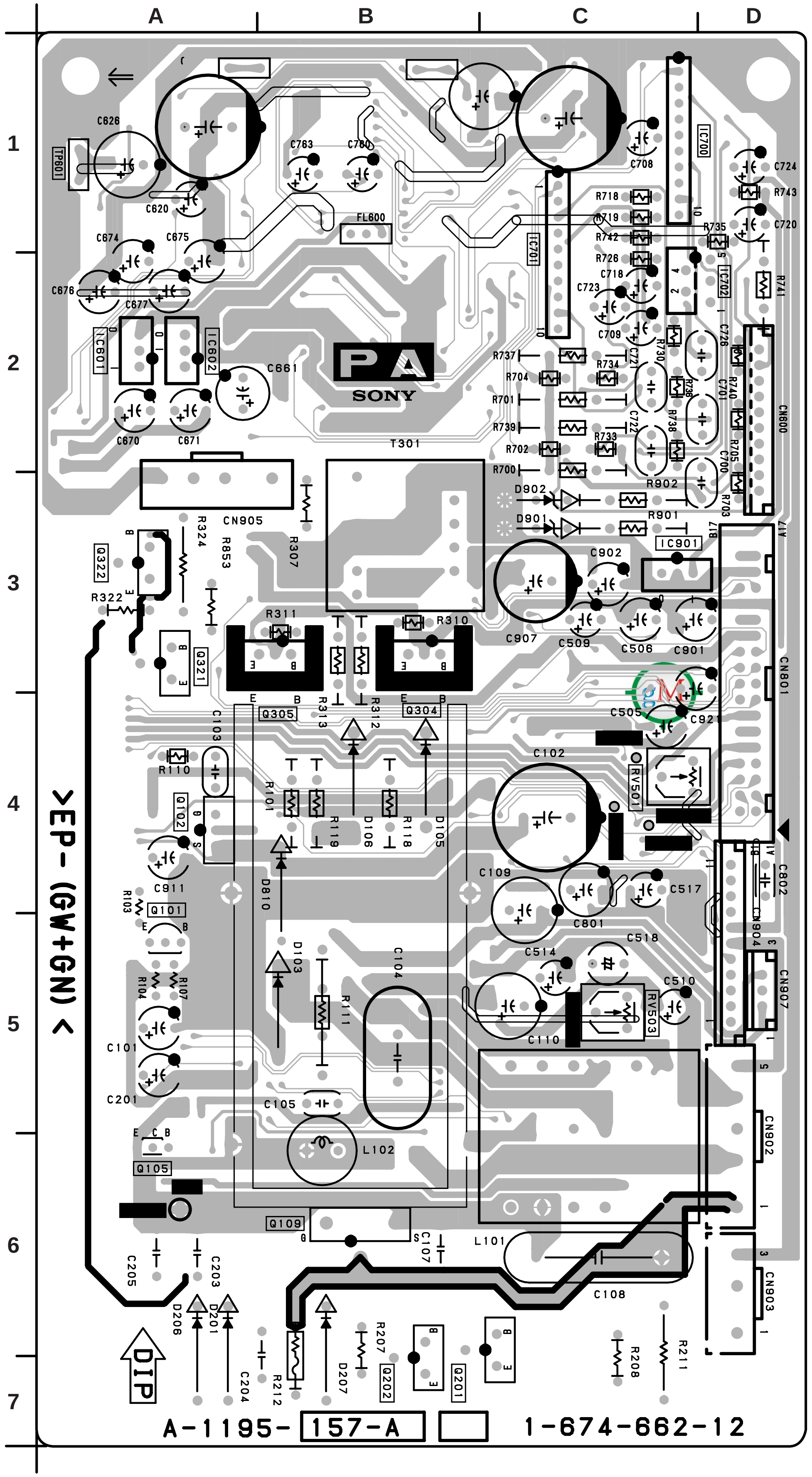
B-SS9676UC-PA -P2

## PA BOARD (D24)

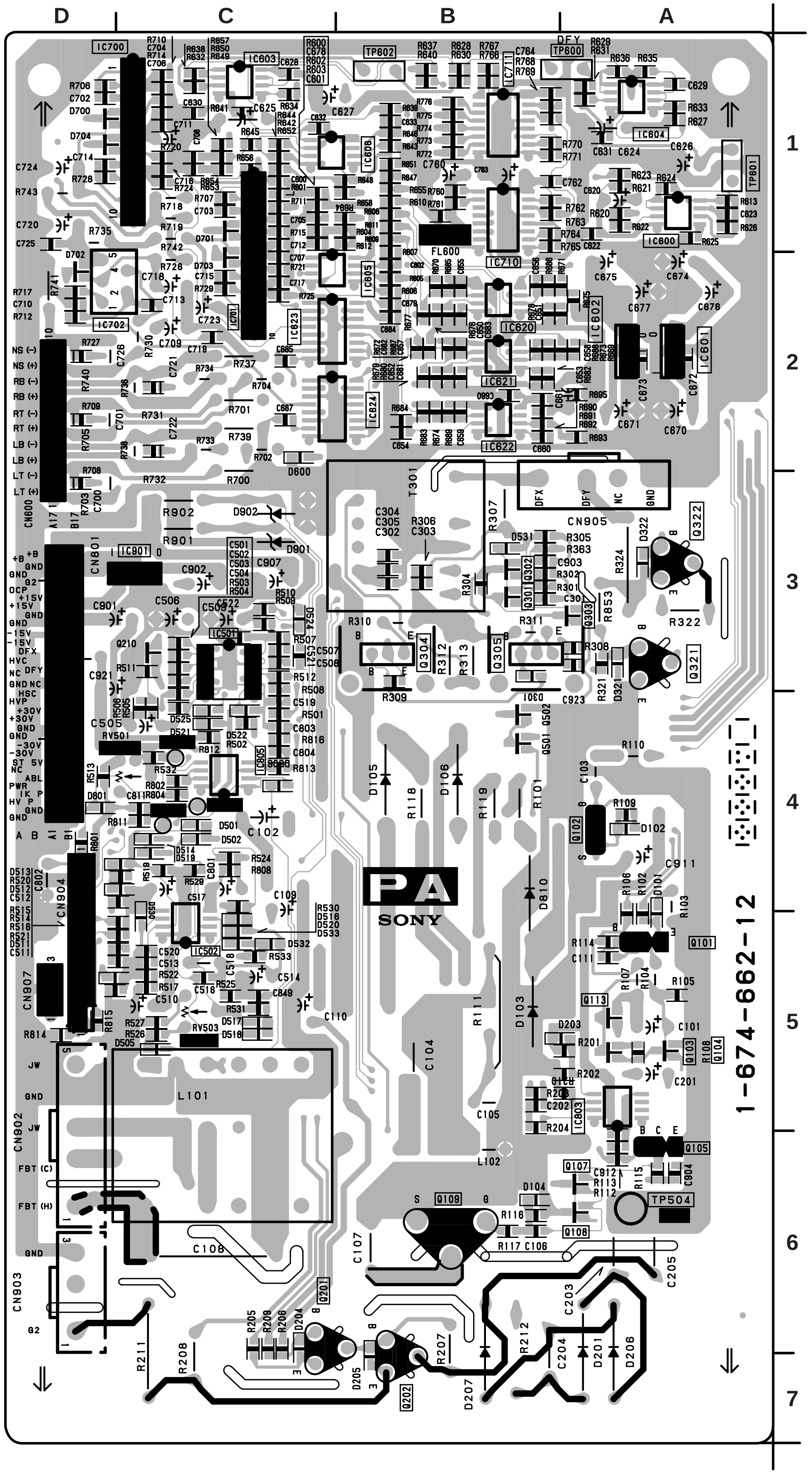
*: B SIDE

| | |
|---|---|
| D101 | * A-4 |
| D102 | * A-4 |
| D103 | B-5 |
| D104 | * A-6 |
| D105 | B-4 |
| D106 | B-4 |
| D201 | B-6 |
| D203 | * A-5 |
| D204 | * C-6 |
| D205 | * B-6 |
| D206 | A-6 |
| D207 | B-6 |
| D301 | * B-3 |
| D321 | * A-3 |
| D322 | * A-3 |
| D501 | * C-4 |
| D502 | * C-4 |
| D505 | * C-5 |
| D511 | * C-5 |
| D512 | * C-4 |
| D513 | * C-4 |
| D514 | * C-4 |
| D516 | * C-4 |
| D517 | * C-5 |
| D518 | * C-5 |
| D519 | * C-4 |
| D521 | * C-4 |
| D522 | * C-4 |
| D524 | * C-3 |
| D525 | * C-4 |
| D530 | * C-4 |
| D531 | * B-3 |
| D600 | * C-2 |
| D700 | * D-1 |
| D701 | * C-1 |
| D702 | * D-2 |
| D703 | * C-2 |
| D704 | * D-1 |
| D801 | * D-4 |
| D810 | B-4 |
| D901 | C-3 |
| D902 | C-3 |
| | |
| IC501 | * C-3 |
| IC502 | * C-5 |
| IC600 | * A-1 |
| IC601 | A-2 |
| IC602 | A-2 |
| IC603 | * C-1 |
| IC604 | * A-1 |
| IC605 | * C-2 |
| IC606 | * C-1 |
| IC620 | * B-2 |
| IC621 | * B-2 |
| IC622 | * B-2 |
| IC623 | * C-2 |
| IC624 | * C-2 |
| IC700 | C-1 |
| IC701 | C-2 |
| IC702 | * D-2 |
| IC710 | * B-1 |
| IC711 | * B-1 |
| IC803 | * A-5 |
| IC805 | * C-4 |
| IC901 | C-3 |
| | |
| Q101 | A-5 |
| Q102 | * A-4 |
| Q103 | * A-5 |
| Q104 | * A-5 |
| Q105 | A-6 |
| Q107 | * A-6 |
| Q108 | * A-6 |
| Q109 | * B-6 |
| Q113 | * A-5 |
| Q201 | C-7 |
| Q202 | B-7 |
| Q210 | * C-3 |
| Q301 | * B-3 |
| Q302 | * B-3 |
| Q303 | * A-3 |
| Q304 | * B-3 |
| Q305 | * B-3 |
| Q321 | A-3 |
| Q322 | A-3 |
| Q501 | * B-4 |
| Q502 | * B-4 |
| | |
| RV501 | C-4 |
| RV503 | C-5 |
| | |
| TP600 | A-1 |
| TP601 | A-1 |
| TP602 | B-1 |

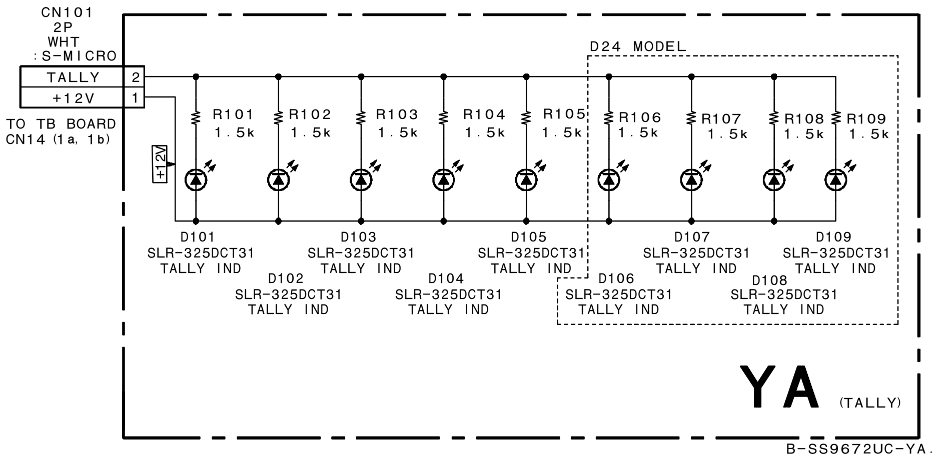
## PA BOARD

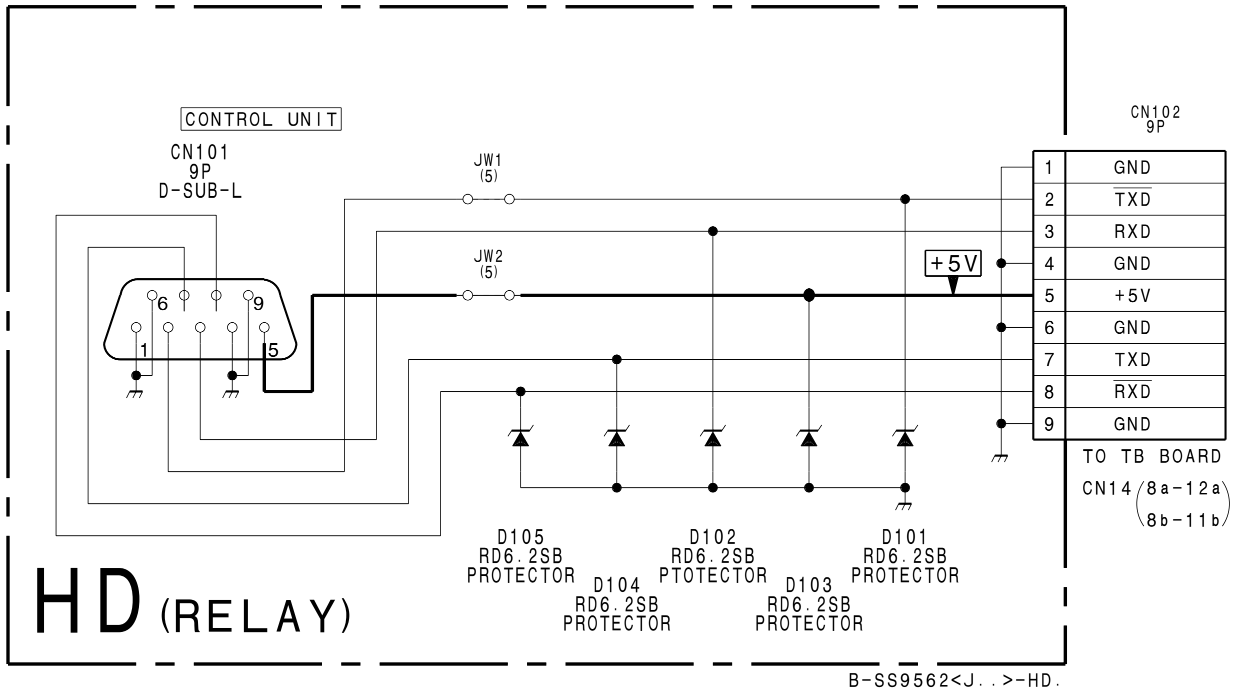

A
B
C
D
1
2
3
4
5
6
7
PA
SONY
T301
CN905
C102
L101
L102
C108
CN801
CN600
CN902
CN903
>EP- (GW+GN)<
DIP
A-1195- 157-A
1-674-662-12

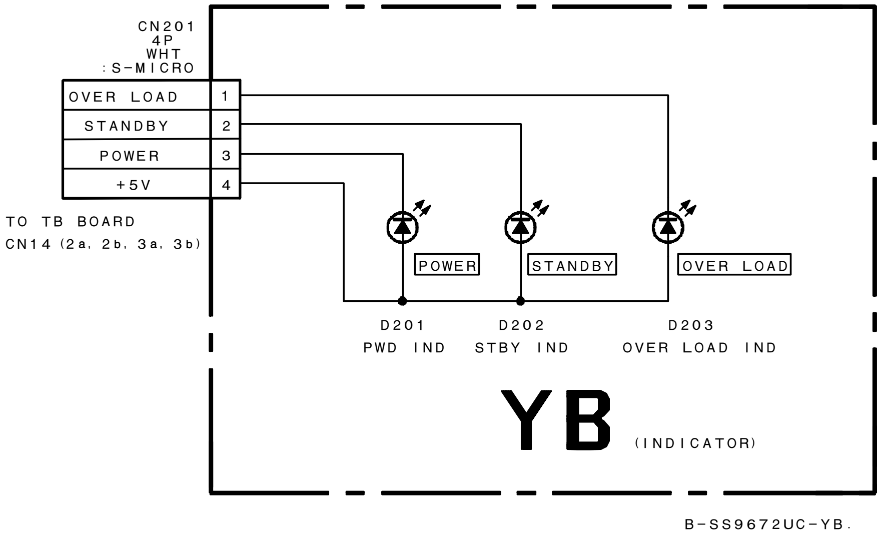
**PA** –A SIDE–
SUFFIX: -12

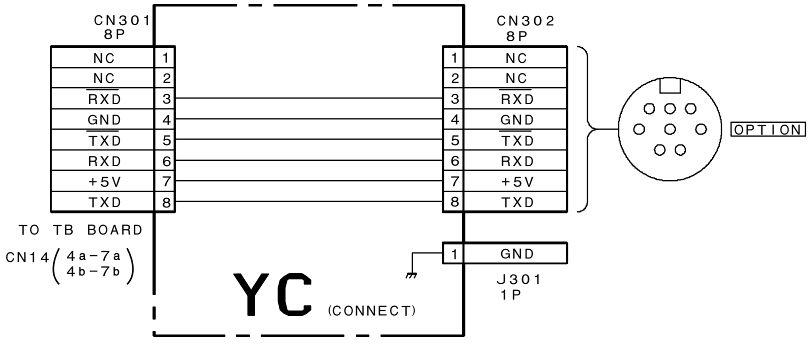

D
C
B
A
1
2
3
4
5
6
7
PA
SONY
T301
CN905
CN801
CN600
L101
C108
CN902
CN903
1-674-662-12

**PA** –B SIDE–
SUFFIX: -12

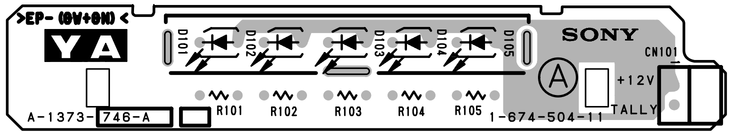

CN101
2P
WHT
:S-MICRO
TALLY 2
+12V 1
TO TB BOARD
CN14 (1a. 1b)
+12V
D24 MODEL
R101 1.5k
R102 1.5k
R103 1.5k
R104 1.5k
R105 1.5k
R106 1.5k
R107 1.5k
R108 1.5k
R109 1.5k
D101 SLR-325DCT31 TALLY IND
D102 SLR-325DCT31 TALLY IND
D103 SLR-325DCT31 TALLY IND
D104 SLR-325DCT31 TALLY IND
D105 SLR-325DCT31 TALLY IND
D106 SLR-325DCT31 TALLY IND
D107 SLR-325DCT31 TALLY IND
D108 SLR-325DCT31 TALLY IND
D109 SLR-325DCT31 TALLY IND
YA (TALLY)
B-SS9672UC-YA.


CONTROL UNIT
CN101
9P
D-SUB-L
6
9
1
5
JW1
(5)
JW2
(5)
+5V
CN102
9P
1 GND
2 TXD
3 RXD
4 GND
5 +5V
6 GND
7 TXD
8 RXD
9 GND
TO TB BOARD
CN14 (8a-12a / 8b-11b)
D105 RD6.2SB PROTECTOR
D104 RD6.2SB PROTECTOR
D102 RD6.2SB PTOTECTOR
D103 RD6.2SB PROTECTOR
D101 RD6.2SB PROTECTOR
HD (RELAY)
B-SS9562<J..>-HD.

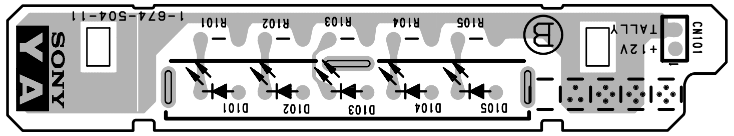

CN201
4P
WHT
:S-MICRO
OVER LOAD 1
STANDBY 2
POWER 3
+5V 4
TO TB BOARD
CN14 (2a. 2b. 3a. 3b)
POWER
STANDBY
OVER LOAD
D201 PWD IND
D202 STBY IND
D203 OVER LOAD IND
YB (INDICATOR)
B-SS9672UC-YB.


CN301
8P
NC 1
NC 2
RXD 3
GND 4
TXD 5
RXD 6
+5V 7
TXD 8
TO TB BOARD
CN14 (4a-7a / 4b-7b)
CN302
8P
1 NC
2 NC
3 RXD
4 GND
5 TXD
6 RXD
7 +5V
8 TXD
OPTION
1 GND
J301
1P
YC (CONNECT)
B-SS9672UC-YC.

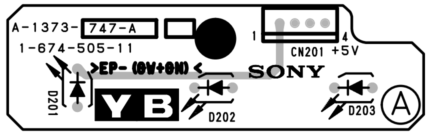
| | D20 | D24 |
|---|---|---|
| CN302 | 1-774-533-11 | 1-565-786-11 |


YA
SONY
D101
D102
D103
D104
D105
R101
R102
R103
R104
R105
CN101
+12V
TALLY
A-1373-746-A
1-674-504-11

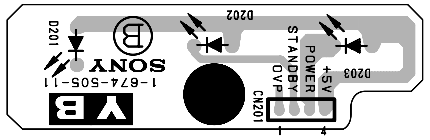
20 inch model
**YA –A SIDE–**
SUFFIX: -11


YA
SONY
1-674-504-11
R101
R102
R103
R104
R105
D101
D102
D103
D104
D105
CN101
+12V
TALLY

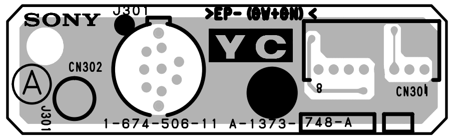
20 inch model
**YA –B SIDE–**
SUFFIX: -11


A-1373-747-A
1-674-505-11
CN201
+5V
SONY
YB
D201
D202
D203

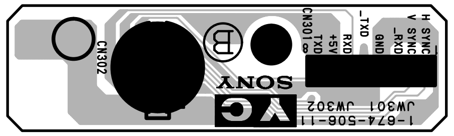
20 inch model
**YB –A SIDE–**
SUFFIX: -11


D201
D202
D203
SONY
YB
1-674-505-11
STANDBY
POWER
+5V
OVP
CN201

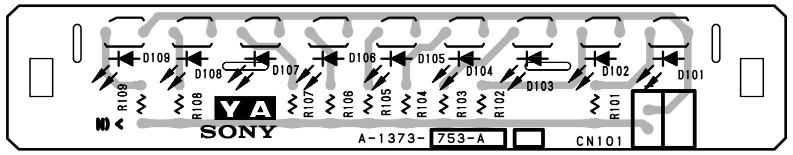
20 inch model
**YB –B SIDE–**
SUFFIX: -11


SONY
J301
YC
CN302
CN301
1-674-506-11
A-1373-748-A

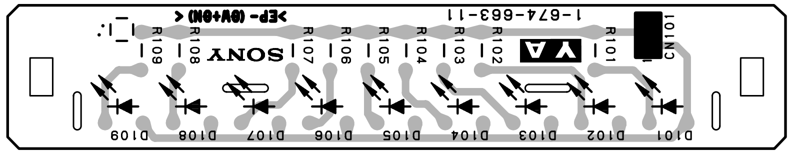
20 inch model
**YC –A SIDE–**
SUFFIX: -11


CN302
CN301
SONY
YC
JW301
JW302
1-674-506-11

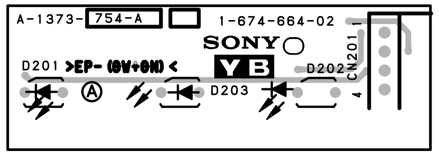
20 inch model
**YC –B SIDE–**
SUFFIX: -11


D101
D102
D103
D104
D105
D106
D107
D108
D109
R101
R102
R103
R104
R105
R106
R107
R108
R109
YA
SONY
A-1373-753-A
CN101

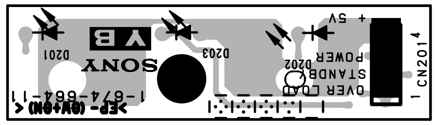
24 inch model
**YA –A SIDE–**
SUFFIX: -11


1-674-663-11
CN101
YA
SONY
D101
D102
D103
D104
D105
D106
D107
D108
D109

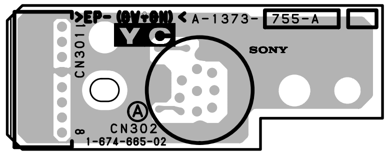
24 inch model
**YA –B SIDE–**
SUFFIX: -11


A-1373-754-A
1-674-664-02
SONY
YB
D201
D202
D203
CN201

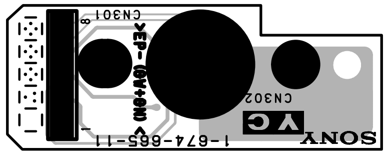
24 inch model
**YB –A SIDE–**
SUFFIX: -11


YB
SONY
D201
D202
D203
+5V
POWER
STANDBY
OVER LOAD
CN201

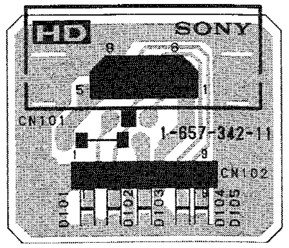
24 inch model
**YB –B SIDE–**
SUFFIX: -11


A-1373-755-A
CN301
YC
SONY
CN302
1-674-665-02

24 inch model
**YC –A SIDE–**
SUFFIX: -11

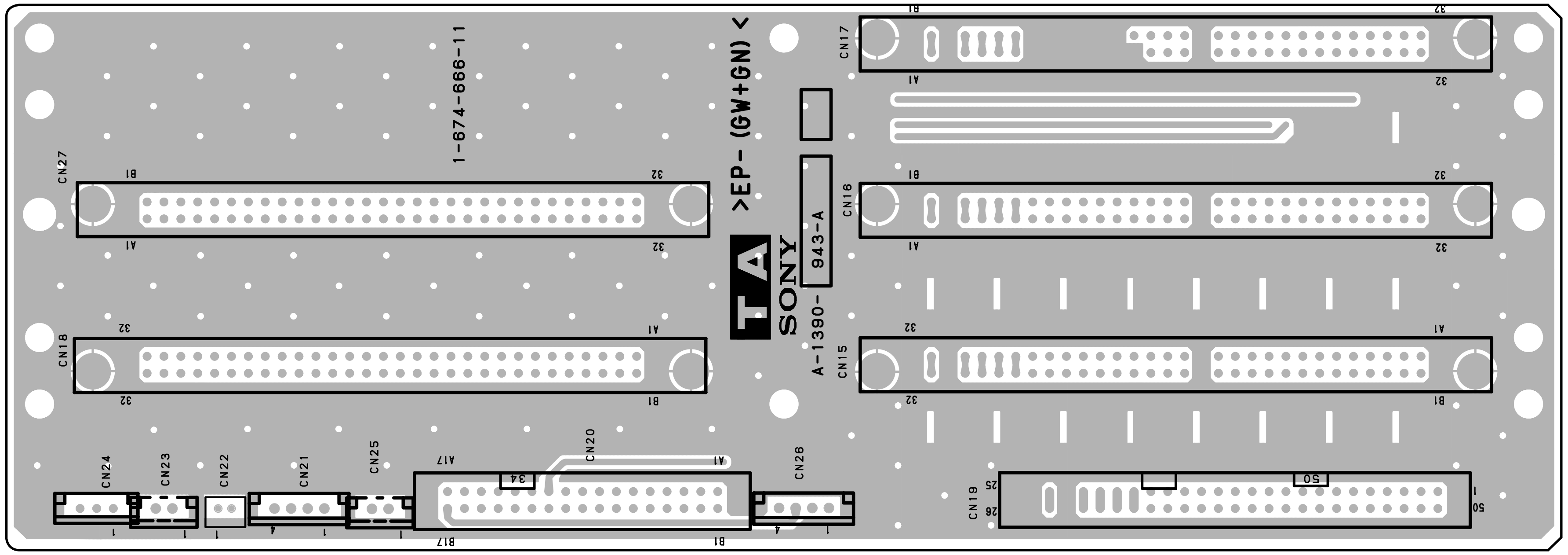

CN301
CN302
YC
SONY
1-674-665-11

24 inch model
**YC –B SIDE–**
SUFFIX: -11

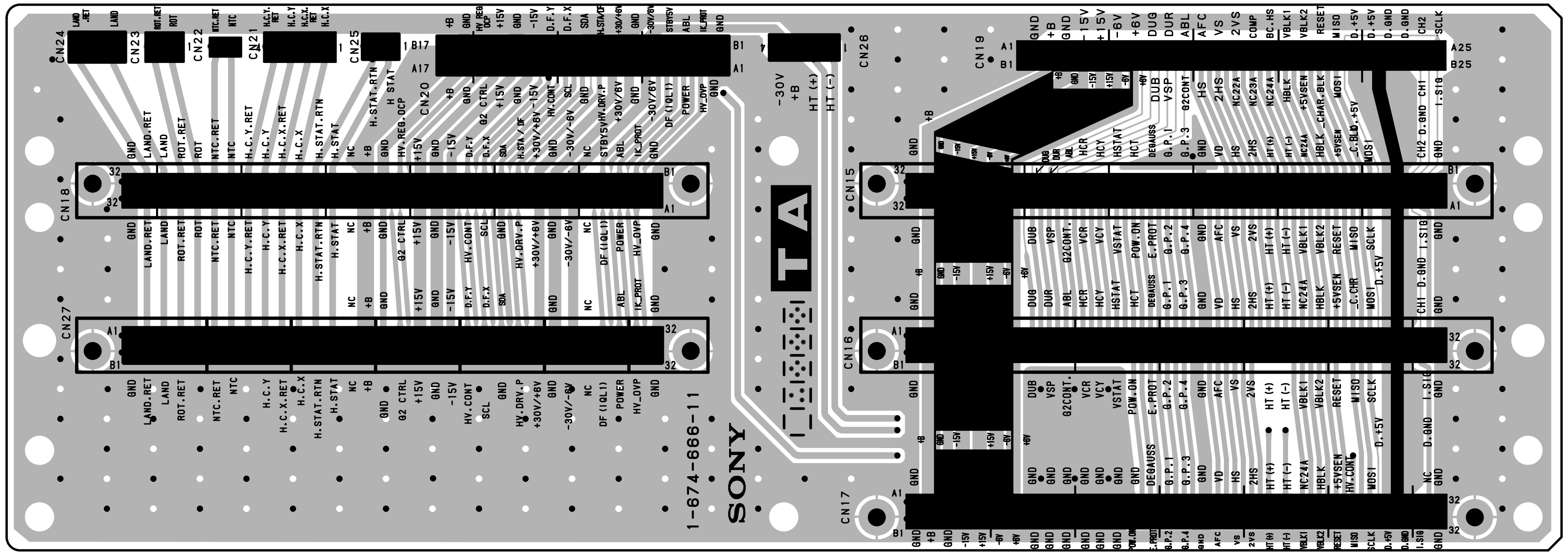

HD
SONY
CN101
CN102
1-657-342-11
D101
D102
D103
D104
D105

**HD –B SIDE–**
SUFFIX: -11

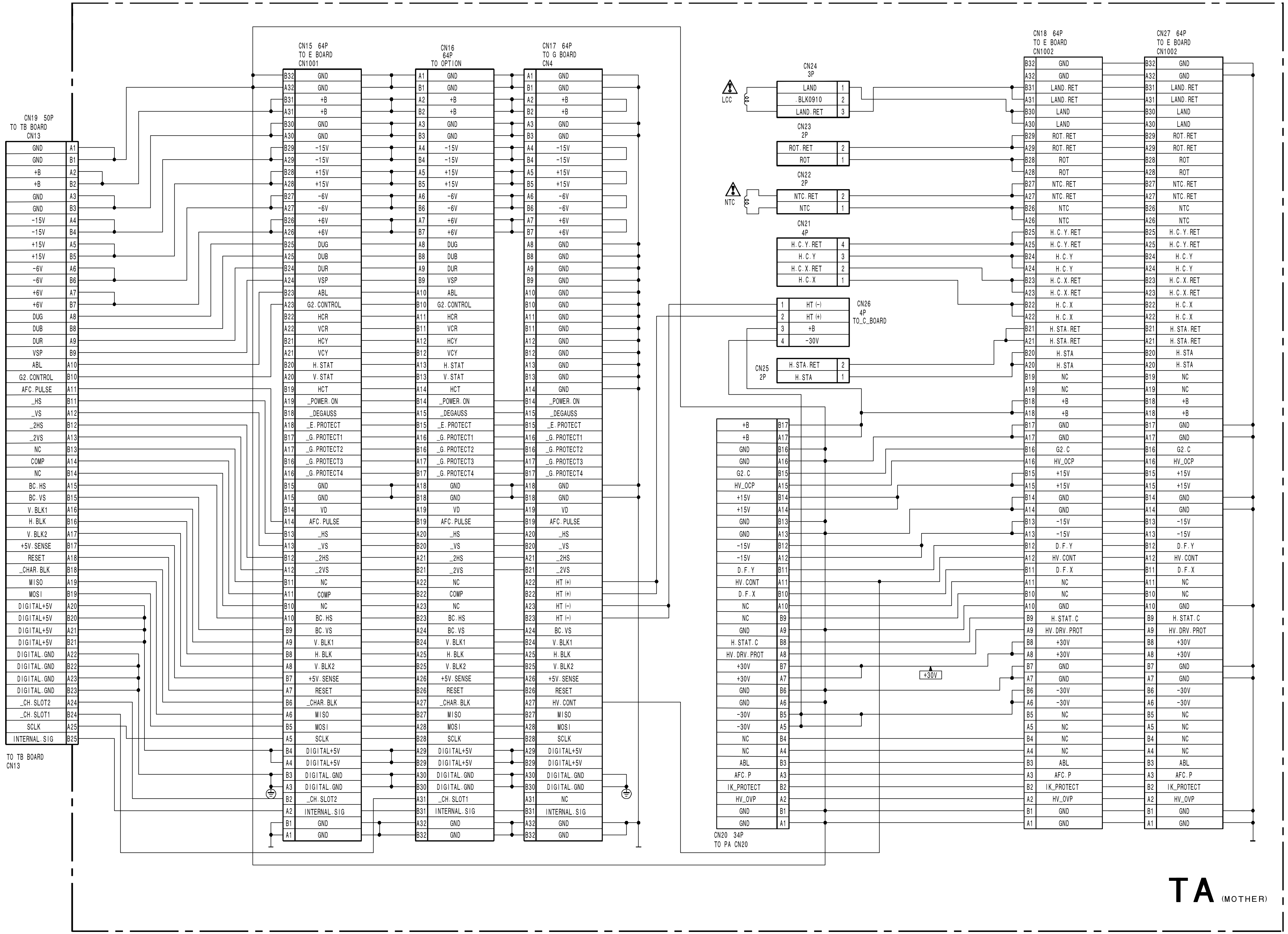
**TA BOARD**


1-674-666-11
>EP- (GW+GN)<
TA
SONY
A-1390-943-A
CN27
CN18
CN17
CN16
CN15
CN19
CN20
CN21
CN22
CN23
CN24
CN25
CN26

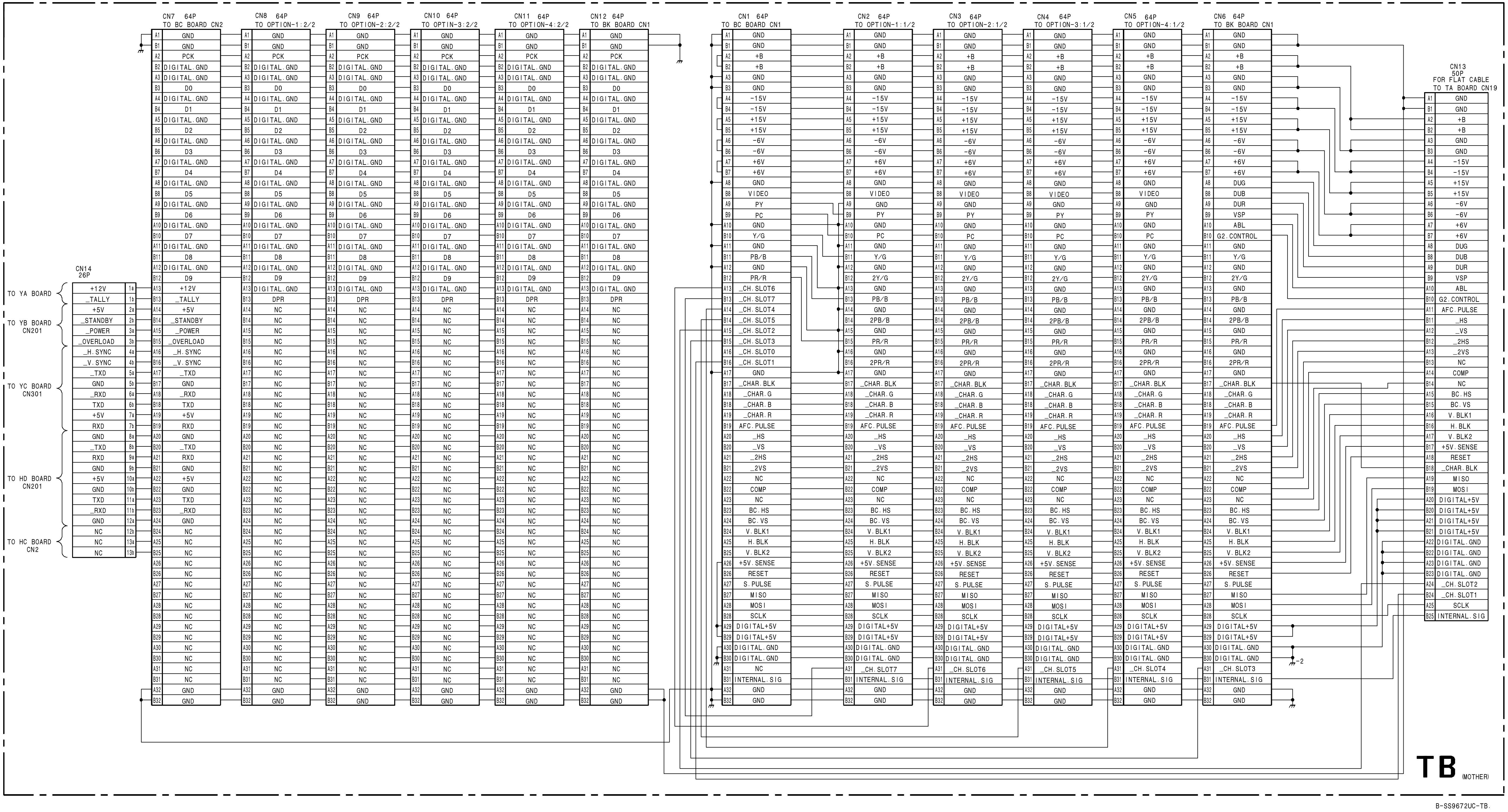
**TA –A SIDE–**
SUFFIX: -11


TA
SONY
1-674-666-11
CN24
CN23
CN22
CN21
CN25
CN20
CN26
CN19
CN18
CN27
CN15
CN16
CN17
-30V
+B
HT (+)
HT (-)

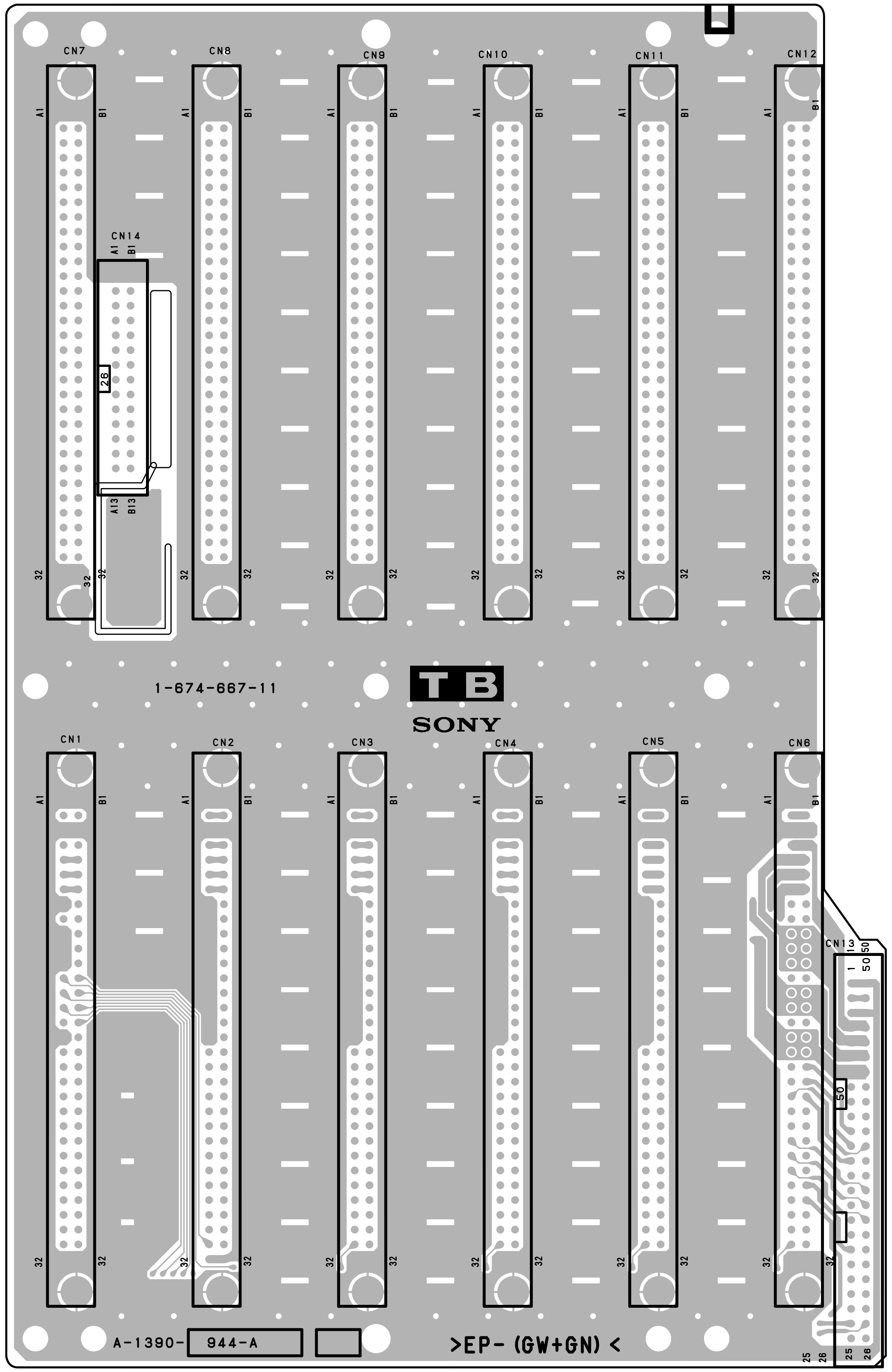
**TA –B SIDE–**
SUFFIX: -11


CN19 50P
TO TB BOARD
CN13
TO TB BOARD
CN13
CN15 64P
TO E BOARD
CN1001
CN16
64P
TO OPTION
CN17 64P
TO G BOARD
CN4
CN24
3P
LCC
CN23
2P
CN22
2P
NTC
CN21
4P
CN26
4P
TO_C_BOARD
CN25
2P
CN20 34P
TO PA CN20
+30V
CN18 64P
TO E BOARD
CN1002
CN27 64P
TO E BOARD
CN1002
TA (MOTHER)
1
2
3
4
5
A
B
C
D
E
F
G
H

http://getMANUAL.com


CN7 64P TO BC BOARD CN2
CN8 64P TO OPTION-1:2/2
CN9 64P TO OPTION-2:2/2
CN10 64P TO OPTIN-3:2/2
CN11 64P TO OPTION-4:2/2
CN12 64P TO BK BOARD CN1
CN1 64P TO BC BOARD CN1
CN2 64P TO OPTION-1:1/2
CN3 64P TO OPTION-2:1/2
CN4 64P TO OPTION-3:1/2
CN5 64P TO OPTION-4:1/2
CN6 64P TO BK BOARD CN1
CN13 50P FOR FLAT CABLE TO TA BOARD CN19
CN14 26P
TO YA BOARD
TO YB BOARD CN201
TO YC BOARD CN301
TO HD BOARD CN201
TO HC BOARD CN2
+12V
_TALLY
+5V
_STANDBY
_POWER
_OVERLOAD
_H.SYNC
_V.SYNC
_TXD
GND
_RXD
TXD
RXD
NC
GND
PCK
DIGITAL.GND
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
DPR
+B
-15V
+15V
-6V
+6V
VIDEO
PY
PC
Y/G
PB/B
PR/R
2Y/G
2PB/B
2PR/R
DUG
DUB
DUR
VSP
ABL
G2.CONTROL
_CH.SLOT0
_CH.SLOT1
_CH.SLOT2
_CH.SLOT3
_CH.SLOT4
_CH.SLOT5
_CH.SLOT6
_CH.SLOT7
_CHAR.BLK
_CHAR.G
_CHAR.B
_CHAR.R
AFC.PULSE
_HS
_VS
_2HS
_2VS
COMP
BC.HS
BC.VS
V.BLK1
H.BLK
V.BLK2
+5V.SENSE
RESET
S.PULSE
MISO
MOSI
SCLK
DIGITAL+5V
INTERNAL.SIG
-2
TB (MOTHER)
B-SS9672UC-TB.

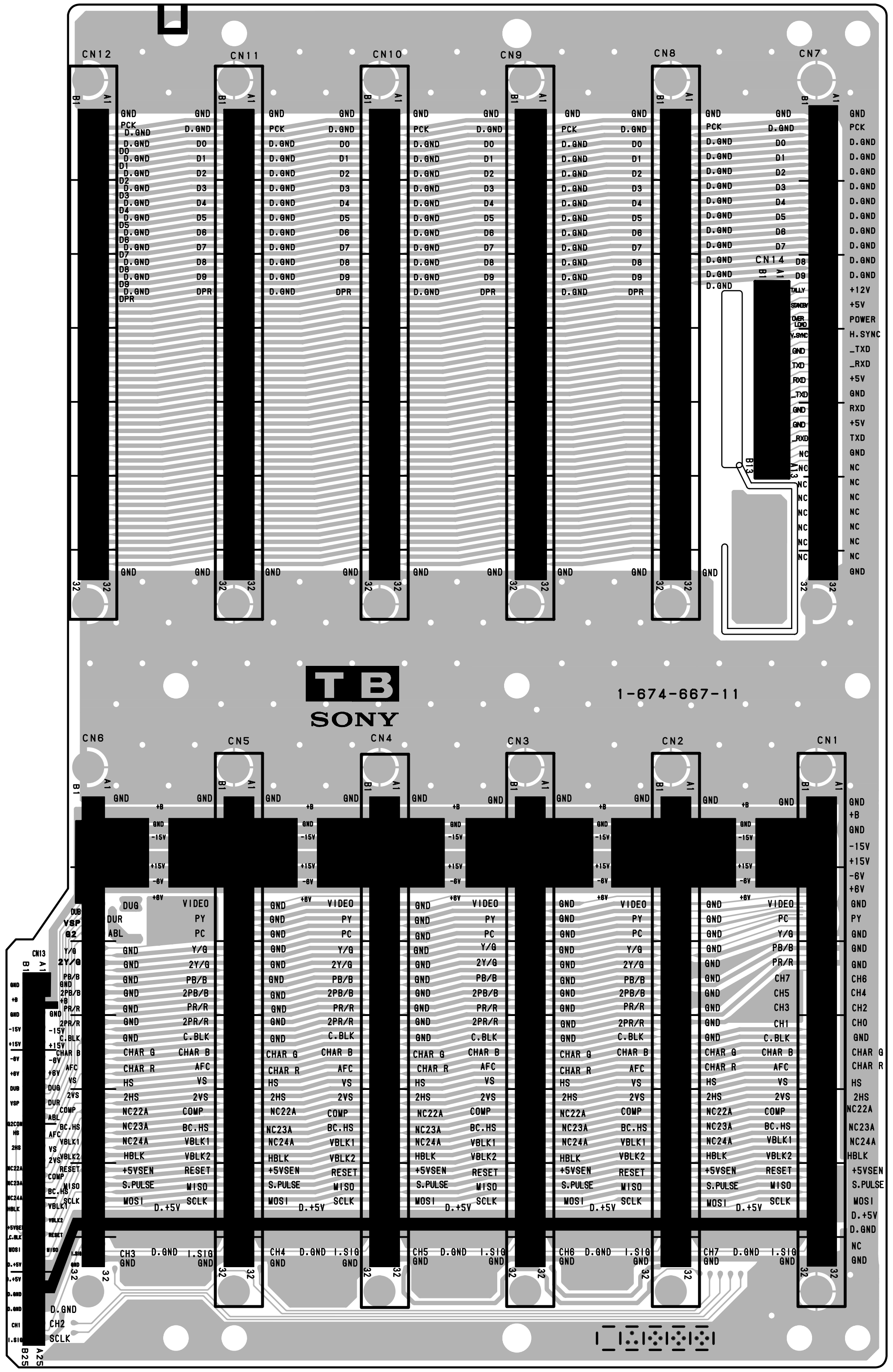
## TB BOARD


CN7
CN8
CN9
CN10
CN11
CN12
CN14
CN1
CN2
CN3
CN4
CN5
CN6
CN13
1-674-667-11
TB
SONY
A-1390-944-A
>EP- (GW+GN) <

**TB** –A SIDE–

SUFFIX: -11

## TB BOARD


CN12
CN11
CN10
CN9
CN8
CN7
CN14
CN6
CN5
CN4
CN3
CN2
CN1
CN13
1-674-667-11
TB
SONY
GND
PCK
D.GND
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
DPR
+12V
+5V
POWER
H.SYNC
_TXD
_RXD
RXD
TXD
NC
+B
-15V
+15V
-8V
+8V
VIDEO
PY
PC
Y/G
2Y/G
PB/B
2PB/B
PR/R
2PR/R
C.BLK
CHAR G
CHAR B
CHAR R
AFC
HS
VS
2HS
2VS
NC22A
NC23A
NC24A
COMP
BC.HS
VBLK1
VBLK2
HBLK
+5VSEN
RESET
S.PULSE
MISO
MOSI
SCLK
D.+5V
CH3
CH4
CH5
CH6
CH7
I.SIG
CH2
CH1
CH0

**TB** –B SIDE–

SUFFIX: -11

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